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An evaluative study of staff utilization patterns was undertaken with four major goals: to measure student progress under various team patterns, to determine student and teacher reaction to new designs and particular aspects of team teaching, to establish criteria for more definitive evaluative procedures, and to establish stronger, more workable team programs through research findings. The ultimate aim was to provide learning opportunities for youth through the discovery and application of the best methods of instruction. Limitations included disparity between student teacher ratios with team and control groups, necessity for better control conditions by eliminating the teacher variable, and questionableness of some data because tests had been administered under varying conditions. Impressions were borne out by test results, student questionnaires, and teacher questionnaires. Measured proficiency of team teaching groups was generally better than that attained by control groups. Eliminating one or two days a week from conventional student programs had no deleterious effect on measured group proficiency. Discipline problems were minimized. Students enjoyed the chance to participate in small groups, and praised the program in its preparation for college, encouragements of creativity and independence and the high level of teacher planning and preparation. Teachers showed enthusiasm for the program and felt that the more responsible students profit best from team programs. They listed flexibility of schedule, quality of work accomplished, and improvement in classroom climate as the most popular features of team teaching. Even though teams differed in subject matter, student level, size, purpose, methods and plans, it was shown that individual structure of each team had little bearing on eventual results. Proficiency tests showedadequate or higher scores; students and teachers were well satisfied.

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by
laurence kirkpatrick
lillian shambeck

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AN EVALUATION OF STAFF UTILIZATION PROJECTS IN THE CENTINELA VALLEY UNION HIGH SCHOOL DISTRICT

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PREFACE

Departures from traditional designs in teaching must of necessity be accompanied by consistent efforts to evaluate and analyze the effects of change upon the end product of learning. As a corollary to its transitional programs in team teaching and flexible scheduling, Centinela Valley Union High School District is engaged in evaluative studies to measure their effectiveness.

This current interim report might well be termed "A Three Year Practical Study of Staff Utilization," for it represents the findings and products of three years of experimentation and implementation of team teaching ideas and techniques. In 1961, in cooperation with South Bay Union High School District, A Proposal for Flexible Scheduling and Curriculum Organization in Los Angeles County, Grades Seven Through Twelve, Language Arts, was published. In 1962, Centinela Valley Union High School District published Transitional Designs for Flexible Scheduling and Curriculum Organization. The present 1963 publication of this district further describes staff utilization designs in its four high schools; reports the results of evaluation, to date, with some discussion of the problems of evaluation; projects plans for the 1963-64 school year; and offers some practical suggestions for assuring successful team teaching operations.

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CHAPTER I

PURPOSES AND LIMITATIONS OF THE STUDY

Purposes of the Study

In undertaking an evaluative study of staff utilization patterns in progress in Centinela Valley Union High School District, 1962-63 school year, the district's Committee on Staff Utilization delineated four major purposes:

1. To measure student progress under various team patterns.
2. To determine student and teacher reaction to new designs and to particular aspects of team teaching--i.e., large group and small group instruction, etc.
3. To establish criteria for more definitive evaluative procedures.
4. To establish stronger, more workable team programs through the findings of research.

Implicit in these specific goals is the desire to provide improved learning opportunities for youth through the discovery and application of best methods of instruction.

Limitations of the Study

One important outgrowth of the study was recognition of some of the difficulties of evaluation. Such limitations, which apply in varying degrees to different phases of the study, fall roughly into three categories:

1. Disparity between student-teacher ratios (class load) with team and control groups.
2. Necessity for better control conditions by eliminating the teacher variable--that is, by using the same teachers for both team and control classes.
3. Questionableness of some data because CTMM tests had been administered under varying conditions.

It should be taken into account, also, that students in classes of design tend to be more highly motivated than those in regular classes, as a response to the special interest shown in them.

The following pages do give some test results, showing the progress attained by team groups as compared to conventional control groups. In each instance the primary caution to be exercised by the reader is listed, such as lack of control group taught by a participating team teacher, teacher-student ratio, etc. There are many other limitations, however, which could very easily have been operating--so many, in fact, that generalizations concerning student progress and teacher efficiency are hazardous. Some of these further limitations follow:

1. Do the tests--or does any test, for that matter--measure what has been tuaght?
2. Does a teacher or a student group work as well period 7 (2:00-3:00) as he does period 2 (9:00-10:00)?
3. How significant is a difference in teacher-student ratio?
4. How relevant as factors are "test carry-over" and test awareness with various ability groups?
5. Are the novelty aspects of a team situation to teacher and student so powerful that they change the learning situation?
6. How closely must a student control group correspond to a team student group to establish a legitimate basis for comparison?
7. Can one or two rowdy individuals so change a class atmosphere that a control or team group's measure of progress is meaningless?

It seems clear, then, with these limitations in mind, that educational evaluation is a difficult and complex undertaking, one so filled with possible error that any far reaching conclusion must be avoided.

CHAPTER II

GENERAL IMPRESSIONS OF THE EVALUATION--AN OVERVIEW

Despite the limitations enumerated in the preceding pages, staff utilization committee members have been impressed with certain dominant features of team group work, impressions borne out by test results, by student questionnaires, and by teacher questionnaires. These impressions follow:

1. Measured proficiency of team teaching groups was at least comparable to and generally better than the proficiency attained by control groups.

2. Eliminating one day a week from conventional student programs (as with Leuzinger High School's senior English enrichment program,* a one-day-a-week large group lecture program) or eliminating two days a week (as in Hawthorne High School's junior elective program--three days of English, two days in elective area) had no deleterious effect on measured group proficiency.

3. Team programs did not generate discipline problems through larger numbers; rather, they minimized such problems through the formalizing of the situation when the group met as a whole.

4. Students in team programs very much favored the division of the

---

*See Transitional Designs for Flexible Scheduling, Centinela Valley Union High School District, 1962, pp. 16-22.

team program into large group, small group, and independent study activities. The chance to participate in small groups was particularly favored.

5. Team students in anonymous questionnaires displayed high satisfaction with their team work. In particular they praised its (a) preparation for college, (b) encouragement of creativity and independence, and (c) the high level of teacher planning and preparation.

6. Team teachers showed general enthusiasm, climaxed by their own desire to stay in the program.

7. Teachers felt that the more responsible students profit best from team programs. Even though the small group work is highly desirable for the less responsible student, in other phases of the program he generally has difficulty in meeting the demands and long-range self-discipline required of most team student groups. Teachers stressed that they are not asking for capability and high intelligence; they are asking for responsible people.

8. The most popular features of team teaching, as compared to conventional programs, were listed by teachers as (a) flexibility of schedule; (b) quality of work accomplished, both by teacher and student; and (c) improvement in general classroom climate and atmosphere made possible by the team structure.

9. Lastly, and perhaps most striking, was the fact that the individual, unique structure of each team--and they differed widely in subject matter, student level, size, purposes, methods, plans, etc.--seemingly had little bearing on eventual results: proficiency tests showed scores of adequate or higher ratings, students were very satisfied, and teachers were pleased. These overall impressions, whatever the particular team structure involved, are almost too strong to be ignored.

CHAPTER III

NINE VARIATIONS IN STAFF UTILIZATION PATTERNS

FOUR PERIOD FRESHMAN BLOCK

Description

At Hawthorne High School ninety freshman, working under three teachers and a part-time aide, participated in an all-morning, four period time block. Three academic subjects--English, Geography, and Algebra--and a study hall comprised the morning. Students were largely college preparatory, but the group was without gifted or accelerated pupils. The aide, initially available one morning each week, was made available two mornings each week as the small student discussion groups became necessary. The three teachers working together could vary the basic four hour schedule in any way they desired. (See charts, pp. 16-19)

Facilities*

1. One ninety-seat lecture room equipped with sound amplifier equipment, served for large group work. A central podium faced the ninety individual desks, and directly behind the desks was a small teacher office, separated by a glass partition from the main lecture room. In this office monitoring, roll-taking, individual student counseling, lesson-preparing, etc., could take

---

*All schools within this district have on each campus opaque and overhead projectors, as well as necessary screens. Tape recorders, movie and film strip projectors, and radios are also available. In addition, Los Angeles County films arrive each week and can be ordered throughout the year. All of these audio-visual aids were in ready access to team groups throughout the the district and have not been listed again under "Facilities" for each team.

place while the class was busy. The entire room facility was excellent.

2. Three regular-sized classrooms were available all morning at least twice a week for use by the three teachers for smaller discussion groups. On these mornings, too, the aide was available for work in the large lecture room, permitting the teachers to divide classes as they wished.

Evaluation

1. English
   a. Group Comparisons: Educational Testing Services's English Cooperative Test (1960), Form 2A, was given in September; Form 2B was given in May. Three control groups of equivalent ability levels were given the same tests at these times. The control group teachers were not the same teachers of the team group.
   b. Matched Pairs: Thirty-eight matched pairs from the experimental group and the control groups were compared. Bases for the matching were age, sex, and CTMM verbal scores. See Appendix A for a tabulation of these results.
2. Geography: No evaluative data was obtained. Students were given teacher-made tests without standardized norms.
3. Algebra I
   a. Group Comparisons: Students were given the Lee-Clark Test of Arithmetic Fundamentals Survey and the Snader General Mathematics Test. Control groups received the same tests.
   b. Matched Pairs: Twenty matched pairs were obtained from the experimental and control groups. Pairs were matched by age, sex, and the Differential Aptitude Test.

Evaluation Results

Obtaining results from evaluation efforts is not a difficult task; the problems arise in interpretation, and the limitations in this type of endeavor should be noted before any broad conclusions are drawn. The principal limitation between the experimental groups and the control group was the teacher variable. Another limitation, of course, was the novelty aspects of the program, both to teachers and students. With these limitations in mind, then, the results were as follows:

1. English
   - a. Group comparisons: Seventy-nine students from three control classes who received both a pre-and post-test (Forms 2A and 2B of the English Cooperative Test) averaged a net composite gain of 3.15. Team students (71) averaged a net composite gain of 3.42.
   - b. Matched Pairs: Thirty-eight matched pairs, selected on the basis of sex, age, CTMM verbal, and ETS Cooperative English Test converted score, were used. The students drawn from the three control classes averaged an increase of 3.00 between the A and B forms; students from the team groups averaged 3.45.

The person reading these results--both group and pairs--might well ask: "What do these composite gains indicate?" The answer, unfortunately, is not definitive. The vital question as to what constitutes a year's growth must remain unanswered inasmuch as no eighth grade norms are provided with the Cooperative English Test, which measures grades nine through fourteen; tenth grade norms are available, but these, administered in the fall of the sophomore year, are not necessarily consistent with a post-test given in the spring to ninth graders. This yearly (9th to 10th grade fall test) increase, as shown in the test medians (approximately 8500 students) is 2.8. It does seem clear, keeping this 2.8 figure in mind, that both control and team groups showed sufficient academic growth in terms of this test, with their scores of 3.15 control and 3.42 team. Any other surmise is probably precarious.

2. Algebra I--Matched Pairs

Twenty matched pairs were selected from the control and team groups. The basis for pairing were age, sex, Differential Aptitude Test, Lee-Clark, and Snader tests. Pre-tests in September consisted of the Lee-Clark and the Snader tests; the post-test in May for all was ETS's Cooperative Algebra Test, Form Y. Results were:

Team group		Mean percentile	Gain
Pre-test	DAT	71.4	
	Lee-Clark) Snader)	69.5 (combined)	
Post-test	Coop Alg. Form Y	76.2	6.7
Control group			
Pre-test	DAT	71.1	
	Lee-Clark) Snader)	69.5 (combined)	
Post-test	Coop Alg. Form Y	71.5	2.0

Combined percentile gain for the control group, then, was 2.0, while that for the team group was 6.7. The "t" ratio was .17, showing that this difference **was not** significant at the .05 level of confidence.

Student Questionnaire

For a complete tabulation of the student questionnaire,. see Appendix B. Most indicative responses to the anonymous student questionnaire were as follows:

	More	Same	Less	No Answer
a. Was individual attention given to you by teachers?	26%	48%	26%	0%

	More	Same	Less	No Answer
b. Did you feel you learned as much here as you would have done in normal classes?	58%	23%	17%	1%
c. Were you challenged to work hard?	61%	25%	13%	0%
d. Could you hear the lectures and see the blackboard in the larger room?	23%	61%	14%	1%
e. How effective was the small group instruction (in writing and discussion)?	86%	6%	4%	4%
f. Did you feel that you made progress in learning to think for yourself?	56%	38%	14%	2%
g. Has your ability to work independently (without supervision) improved in team classes?	49%	34%	14%	2%
h. Do you feel this type of class prepares you for college work?	88%	7%	4%	0%

Of special importance, perhaps, were the student responses to questions (d), (e), and (f):

(d) One might think that the larger, ninety-seat classroom would impose restrictions on the students in terms of their seeing the board and hearing the lectures; yet the student response indicated these were not problems at all. This student viewpoint is somewhat surprising; a negative opinion had been anticipated here.

(e) The overwhelming student response favoring the small group is especially important, showing so clearly the students' rating of this phase of the program. Judging by this opinion and from others given in team programs evaluated, small group work should be thought of as an integral part of the team program.

(f) The students' judgment that they made progress in learning to think for themselves is of course a subjective one; yet this area of learning, so vital to the whole educational process, must always remain subjective and if students do rate highly a program such as this in this aspect of learning, their rating must be given some importance.

Teacher Questionnaire

The teachers of this teaching group answered the district questionnaire which accompanies all other team teaching variations in this study. Many of this group's answers are incorporated below. More important than that questionnaire, perhaps, is the list given below, a summary of the program made in February by the three teachers involved. In this summary, they answered these two questions:

I. What advantages do you feel are the outcome of your teaching team?

1. Students receive more individual attention.
2. More time devoted to counseling and guidance by the individual teacher or all three teachers together.
3. Better equalization and coordination of homework load and testing days.
4. Better opportunity for discussion in small groups.
5. Greater emphasis placed on methods of learning:
    a. Self-study
    b. Teacher explanation
    c. Interaction of student and teacher
6. Maximum utilization of facilities and equipment.
7. More supervised study time.
8. Greater opportunity for combining different subject classes.
9. Better follow-up procedures.
10. Greater efficiency of time.
11. Benefit to students from combined utilization of teacher's experience and knowledge.
12. More teacher time for evaluation, planning, organization, and preparation to improve teaching skills and methods.

13. Students must be more responsible and self-disciplined.

14. More time available for lecturers and activities.

15. Students witness large class competition.

16. Less chance of tests being compromised.

17. More frequent use of library facilities.

18. Less general monotony caused by routine schedule and inflexible regimentation.

19. More variety offered in diversified class schedules.

20. Students receive benefit of contact with librarian and teacher aide.

21. Students receive greater amount of writing and discussion experience.

22. More time for parent consultation and student diagnosis.

23. Better academic grouping for small groups is accomplished.

24. Joint planning provides an opportunity and impetus for improving teaching methods and presentation.

25. Students accept academic difficulties with greater perseverance because reluctant learners are easier to reach.

26. Counselors and teachers are able to work more closely together.

27. More frequent association and coordination among team teachers.

28. Significant problems attacked with team effort.

29. Higher motivation stressed for student investigation and creativity.

II. What disadvantages have been clear to you in your work in team teaching and what general recommendations would you make concerning the school's use of team teaching?

1. There is a lack of physical facilities for large groups (other than the room used by our team).

2. Senior students should be assigned for assistance.

3. Team teachers need more creative and imaginative approaches along with a reorganization of methods and materials.

4. There is a need for parent and faculty orientation of team teaching in order to overcome the aversion of change.
5. Communication and information of team activities is lacking. (We need information about other teams and techniques.)
6. Teams should have an elected or appointed team spokesman or chairman.

This lengthy summary, compiled while the program was in full operation with all students meeting in small groups twice a week, gives much insight into the workings of the program.

The end of the year questionnaires varied little from the above comments. Certain suggestions not mentioned above were added:

1. Keep the student with poor self-discipline out of team groups.
2. Consider team teaching not only in these three academic areas but also in industrial arts, physical education and in foreign language.
3. The better students seem to profit most from this type of teaching.
4. Counseling and guidance time is much more evident to the teacher in this type of program.

When these later observations are added to those already listed, it seems clear that the participating teachers gave a very positive evaluation of the total program.

Tentative Conclusions

It is the judgment of the Staff Utilization Committee that this team has perhaps the greatest all-around potential of the team experiments conducted. There are many reasons for this opinion, some of which are listed below:

1. Greatest flexibility--The block aspect permits almost infinite variation in schedule patterns and can be easily altered without upheavals in course content. Time savings are constant with this flexibility.

2. Relative Stability of the Class--Of the ninety students, eighty-nine were kept in the group until February; eighty-four were still present

in June. When the quality of the program and the demands made upon the students (see the students' rating concerning how hard they worked) are considered, these figures become quite remarkable.

3. Overall Academic Progress--It should be noted that the two academic areas evaluated, English and Algebra I, showed consistent, if not spectacular growth, equalling or slightly passing control groups in both areas. The matched pairs (38 in English, 20 in Algebra I) also showed good achievement very much similar to the achievement attained by the total team group, and also slightly ahead of the control groups. It seems apparent on these bases that there was good academic balance among the subject areas of the team program.

4. Good Transitional Program Between Grammar and High School--The relationships between this program and an elementary school program must be obvious to the reader, with more than two-thirds of the school day spent with one large student group under three teachers. This relationship is borne out, moreover, by the students' responses on their questionnaires--
teacher attention, "more", 26%; "same", 48%; "less", 26%--
than in normal classes. Their responses seem to say they considered this large class as one where attention could be gotten as in other classes. "Other" classes, in their case, however, must be largely thought of as as eighth grade classes, since most (80%) of their high school day consisted of the team block.

5. Balanced Evaluation--The evaluation done depended primarily on four elements: (a) academic progress by the group, (b) matched-pair comparisons with control students, (c) teacher questionnaires, and (d) student questionnaires. In all of these areas, a strong impression of general excellence and

satisfaction is obtained. It seems quite conclusive that this particular teaching team had a most successful experience.

CHARTS I, II, AND III

THREE VARIATIONS OF THE FOUR PERIOD BLOCK

The three charts which follow need some explanation, inasmuch as they represent different variations of the four period block pattern.

1. Chart I, p. 17, is the suggested schematic drawn up by the Committee on Staff Utilization during the summer of '62-63. It was given to the participating teachers who, after a short trial, modified it for the plan of Chart II. The teachers felt this plan (Chart I) was a bit too complex--at least early in the year.
2. Chart II, p. 18, was the next stage in the overall design. While this schedule had the advantage of simplicity, it too was modified after the consecutive large group lecture situations were found to be too lengthy and non-productive.
3. Chart III, p. 19, shows the most successful schematic employed, utilizing the very popular small group work twice each week. Note that the team teachers actually had five, not four, periods integrated into the program, since Period 5 was the normal lunch hour. This last design was employed very successfully for the bulk of the year.

CHART I

FOUR-PERIOD BLOCK: 90 COLLEGE PREP. FRESHMEN—3 TEACHERS, 1 AIDE

3 SUBJECTS: ENGLISH, GEOGRAPHY, ALGEBRA and STUDY HALL

Module			Monday			Tuesday				Wednesday				Thursday				Friday		
1	8:20	8:50	Alg. 30 X	Eng. 30 Y	Geo. 30 Z	English—L. G. (XYZ)— 90				Geography —L. G. (XYZ)—90				Algebra— L. G. (XYZ)—90				Alg. 30 X	Eng. 30 Y	Geo. 30 Z
2	8:50	9:20																		
3	9:20	9:50	Alg. 30 Y	Eng. 30 Z	Geo. 30 X	sg X_1 15	sg X_2 15	sg Y_1 15	study & indep. activity (under aide) 45	15 X_1	15 X_2	15 Y_1	study & indep. activity (under aide) 45	15 X_1	15 X_2	15 Y_1	study & indep. activity (under aide) 45	Alg. 30 Y	Eng. 30 Z	Geo. 30 X
4	9:50	10:20				X_2 15	Y_1 15	Y_2 15		X_2	Y_1	Y_2		X_2	Y_1	Y_2				
5	10:20	10:50	Alg. 30 Z	Eng. 30 X	Geo. 30 Y	Y_1 15	Y_2 15	Z_1 15		Y_1 15	Y_2 15	Z_1 15		Y_1 15	Y_2 15	Z_1 15		Alg. 30 Z	Eng. 30 X	Geo. 30 Y
6	10:50	11:20				Y_2 15	Z_1 15	Z_2 15		Y_2	Z_1	Z_2		Y_2	Z_1	Z_2				
7	11:20	11:50	Study Hall (under aide) 90			Z_1 15	Z_2 15	X_1 15		Z_1	Z_2	X_1		Z_1	Z_2	X_1		Study Hall (under aide) 90		
8	11:50	12:13				Z_2 15	X_1 15	X_2 15		Z_2	X_1	X_2		Z_2	X_1	X_2				

L. G. = large group; sg = small group
Aide has study supervision eleven hours a week: 1 hr. Mon; 3 hrs. Tues., Wed., Thurs; and 1 hr. Fri.
Schedule is conventional on Monday and Friday; allows for small groups Tuesday and Thursday.
Each team teacher has four hours for preparation, counseling, etc., non-assigned.
Each team teacher sees all his students three times weekly in small group (15) sessions.
Each team teacher gives one large group lecture each week.

CHART II
ALGEBRA, ENGLISH, GEOGRAPHY SCHEDULE
FOUR PERIOD BLOCK

Module			Monday	Tuesday	Wednesday				Thursday	Friday
1	8:20	8:50	1 Regular 1st Period Class Math Room 21-3	1 Large Group Presentation Algebra Room 14-1	Math A 21-3	Eng B 18-3	Geo C 20-2	1 XYZ Library	1 Regular 1st Period Class Math Room 21-3	1 Large Group Presentation Geography Room 14-1
2	8:50	9:20			Math B 21-3	Eng C 18-3	Geo A 20-2			
3	9:20	9:50	2 Regular 2nd Period Class Geography 20-6	2 Large Group Presentation English 14-1	Math C 21-3	Eng A 18-3	Geo B 20-6	2 Library	2 Regular 2nd Period Class Geography 20-6	2 Large Group Presentation Algebra 14-1
4	9:50	10:20			Math X 21-3	Eng Y 18-3	Geo Z 20-6			
5	10:20	10:50	3 Regular 3rd Period Class English 18-3	3 Large Group Presentation Geography 14-1	Math Y 21-3	Eng Z 18-3	Geo X 20-6	3 Library	3 Regular 3rd Period Class English 18-3	3 Large Group Presentation English 14-1
6	10:50	11:20			Math Z 21-3	Eng X 18-3	Geo Y 20-5			
7	11:20	11:50	4 STUDY HALL 14-1	4 STUDY HALL 14-1	4 Math 14-1 English 14-1 Geography 14-1				4 STUDY HALL 14-1	4 STUDY HALL 14-1
8	11:50	12:13								

CHART III: ENGLISH, ALGEBRA, GEOGRAPHY TEACHING SCHEDULE

FOUR PERIOD BLOCK

Module			Monday				Tuesday	Wednesday				Thursday	Friday
1	8:20	8:50	Eng A 18-3	Alg B 21-3	Geo C 20-5	1 XYZ	1 English 14-1	Eng Z 18-3	Alg X 21-3	Geo Y 20-5	1 ABC	1 subject: ____ room: ____	1 Algebra 14-1
2	8:50	9:20	B	C	A	study		Y	Z	X	study		
3	9:20	9:50	C	A	B	2 library	2 Algebra 14-1	X	Y	Z	2 library	2 subject: ____ room: ____	2 Geography 14-1
4	9:50	10:20	X	Y	Z	ABC		C	A	B	XYZ		
5	10:20	10:50	Y	Z	X	study 3	3 Geography 14-1	B	C	A	study 3	3 subject: ____ room: ____	3 English 14-1
6	10:50	11:20	Z	X	Y	library		A	B	C	library		
7	11:20	11:50	4 English 14-1 Algebra 14-1 Geography 14-1				4 LUNCH	4 Geography 14-1 English 14-1 Algebra 14-1				4 STUDY HALL 14-1	4 LUNCH
8	11:50	12:20											
9	12:20	12:50	5 LUNCH				5 STUDY HALL 14-1	5 LUNCH				5 LUNCH	5 STUDY HALL 14-1
10	12:50	1:13											

ALGEBRA I: TWO TEACHERS--ONE PERIOD

Description

Fifty Algebra I students were placed in one large classroom with two veteran mathematics instructors. An aide was available for two class hours (Thursday and Friday). The students were primarily of "B" grade level.

When the class was first planned, it was believed that student numbers could be raised past the sixty mark. Unfortunately, this increase could not be made, due to various scheduling problems; and normal attrition further reduced the class during the year to forty-five. Class size under these circumstances was clearly a limiting factor for evaluation purposes, since the control groups initially established for comparison soon grew much larger on a teacher-student ratio; and as a consequence no attempt with evaluative criteria has been made. Nevertheless both teachers felt strongly that the plan was very profitable for the students, so much so, in fact, that they "saved" a number of students who normally could not have grasped enough algebraic concepts. This "saving" was done primarily through small group and individual instruction, situations created by the team approach.

The class was divided into four student groups--named here as groups x1, x2, x3, and x4. With the aide working with half (x1 and x2), the two instructors could each take one small student group (x3 and x4) aside for intensified instruction and discussion for part or all of the period. Each student in all four groups received small group instruction at least once and sometimes twice each week, either for a full period or for two half periods. Further, the small groups themselves varied in ability, x1 being the most advanced group, x2 the next in ability, then x3, and finally the students having difficulty in x4. The following schematic will show how the groups operated:

Monday	Tuesday	Wednesday	Thursday	Friday
X_1 X_2 X_3 X_4 (Large group)	X_1 X_2 X_3 X_4 (Large group)	X_1 X_2 X_3 X_4 (Large group)	X_3 S.G. (Small group) X_4 S.G. X_1 X_2 (Aide)	X_1 X_3 S.G. X_4 X_2 (Aide) S.G.

Facilities

One large classroom, with desk seating for all students, was available. Extra blackboards and a speaker stand were the only additional equipment. Another, smaller room was nearby.

Evaluation

1. The pre-tests consisted of the Lee-Clark and the Snader, administered in September.
2. The post test was the Cooperative Algebra, Form Y, administered in May.

Evaluation Results

As stated earlier, the teacher-student ratio for the team class was smaller than for the control groups, and it would logically follow that better teaching should ensue. Nevertheless, the same teachers conducted the control groups who held the team class, removing the teacher variable and making student progress of interest. Their results follow:

Team:

Pre-tests (based on the average of the two percentile scores on the Lee-Clark Test of Arithmetic Fundamental Survey and the Snader General Mathematics Test)	72% Median
Post-tests (Form Y of the ETS Cooperative Algebra)	72% Median

Control Group:

Pre-tests (also an average of the two scores on the Lee-Clark and Snader)	72% Median
Post-tests (Form Y of the ETS Cooperative Algebra)	74% Median

The gain by the control groups, while slight, is nevertheless misleading. It must be remembered that the teachers believed they had "saved" some students by using the time available in the team situation with heavy individual tutoring or small group work for these less able students. These "saved" students remained through the year and took the post tests. Their scores were naturally not high. The control groups, on the other hand, had to drop some people, and these low scores do not appear in the post-test. Thus the scores above, which tend to show a better gain by the control groups, do not reflect the true picture.

Teacher Questionnaire

The two teachers involved were asked to compare this class with a conventional class, listing their responses as "more", "same", or "less". "More" responses were as follows:

Teacher school time available for organization, preparation
Your own evaluation of the effectiveness of your preparation
Opportunity to improve teaching skills and methods
Availability of time for working with individual students on assignments
Opportunity to become personally acquainted with individual students and offer guidance
Time available for student diagnosis and parent consultation
Opportunity for class discussion in this program
Time available for lecturers and other activities

"Same" responses were given to these items:

After your initial large group presentation, how comfortable did you feel working with these large classes?
Additional outside time which you devote to preparation in this program
Ease of grouping students within a given class
Opportunity for supervised study
Challenge to students to do their best
Development of student responsibility and independence
Opportunity for student creativity
Outside preparation required of students in this program
Your general impression of student learning taking place in this program
Ease of grading

"Less" responses were as follows:

Opportunity to concentrate on specific areas of interest
Student attention in class in this program
Discipline problems

Teachers were asked to list the strongest and weakest features of this program.

Strongest:

Better teacher preparation
More time for the very poor student
More class discussion time
Good students are stimulated
Novelty for teachers and students

Weakest:

The lecturer often fails to recognize he is not "getting through".
The introverted student suffers.
Immediate questions arise and are better met in regular classes.

Teachers were further requested to list three basic guide lines for establishing a teacher team. Their responses were these:

1. Choose compatible teachers
2. Screen and organize the class properly
3. Make the physical plant adequate

Tentative Conclusions

Neither teacher who participated in the team experiment is prepared at this moment to say that this particular type of team structure is a better method of teaching algebra than the conventional method. They do feel it is as good a method as the normal, but they would prefer a more detailed evaluation with team and control groups of comparable size, using more background data concerning student ability and potential before making any sweeping adjustment. Such a detailed evaluation is contemplated for 63-64. Certain observations, however, are apparent:

1. The team structure in algebra permits a measure of individualized work with students which is most beneficial.
2. Teaching techniques are improved through the observation of the other teacher.
3. A group of this size (50 with two teachers) has a fluidity and flexibility which permits last-minute changes in plans as these needs arise.
4. Observable learning taking place is equal to that of a conventional group.
5. Aides who participate in mathematics programs need a certain minimum background.
6. The expected saving of teacher time while students were working on individualized work did not materialize; both teachers were needed for assisting students.
7. "Eye" contact cannot be employed as a means of class discipline; the larger class removes this aspect of discipline and must depend on teacher ability and preparation.

ALGEBRA I: TWO TEACHERS WITH AIDE

The chart which follows was given to the Algebra I teaching team. They found that certain aspects of the suggested outline were workable, particularly the small group divisions. They made some extension of the small group plans with the assistance of an aide, who was available both Thursday and Friday.

The teachers found that no overall schematic consistently solved their particular grouping problems for any long period of time, and before two months had passed they were making weekly changes, enlarging or decreasing the amount of small group work to meet the needs of the students.

CHART V

ALGEBRA I: SIXTY STUDENTS, TWO TEACHERS, ONE HOUR

Module	Monday		Tuesday		Wednesday		Thursday		Friday
1st half of hour	Accel 3-6 X	L. G. 54-57 ABCD Y	L. G. ABCD 60 X		Rem 3-6 X	L. G. ABCD 60 Y	L. G. ABCD 60 X		Evaluation L. G.
2nd half of hour	S. G. A-15 X	BCD 45 Y	S. G. B-15 X	ACD 45 Y	S. G. C-15	ABD 45 Y	S. G. D-15 X	ABC 45	X+Y (Alternate weeks)

Student groups are designated as A, B, C, D (15 in each) and accelerated or remedial.
Teachers (X and Y) plan year's curriculum together and alternate on large group lectures.
Plan requires a separate room (close) for groups of fifteen or less every day except Friday.
Both remedial and accelerated students are withdrawn from regular class time.
All students have some small-group work.
Total individual teacher time saved—one hour.
Teachers can alternate on the small-group instruction; above plan uses teacher X.
First half of hour is normally introduction of new material and correction of old.
L. G. indicates large group; S. G. indicates small group.

ENGLISH IV--TWO TEACHERS--ONE PERIOD

Description

Sixty Hawthorne High School seniors meeting Period 3 participated in this program. In academic background, part of the group was college preparatory and part was terminal, with achievement of "B--C" grade level. The normal novelty aspects of a team program were somewhat minimized inasmuch as the participating teachers were veterans of team work who had conducted this same type of class the previous year. The class curriculum was largely unchanged (see Transitional Designs for Flexible Scheduling and Curriculum Reorganization, 1962, for a complete description of the year's program), the students were quite comparable in academic ability to those of the previous year, and the general pattern was much the same. Obviously the uniqueness of such a program was thus reduced.

No aide was available for class activity; however, aide time, a total of three hours weekly, was furnished to the teachers for out-of-class activity.

The first half of the school year was primarily large group instruction, with the second semester a mixture of both small and large. All students received a minimum of twelve days of small group work. Literature, vocabulary, and term paper study comprised the first semester; grammar and writing, the second. Reading and spelling were emphasized all year. Teachers rotated in the first semester, each being responsible for and autonomous in a particular phase--i.e., short story.

Facilities

One large classroom with individual seating for sixty students accommodated the students. A smaller classroom was available nearby. A sound amplifier system, a speaker stand, two teacher desks, and blackout curtains constituted the existing physical equipment.

Evaluation Instruments

English Cooperative Test (1960--ETS), Form 2A, was given in September; Form 2B was given in May.

Evaluation Results

The overall composite gain for this class was 2.59, as compared to a national yearly norm gain of 1.3.

Two control groups, one of "A-B" ability and the other of "B-C", attained gains of 1.68 and 2.43 respectively. The second control group (2.43) is of special interest since it was taught by one of the teachers who participated in the team effort. It seems significant that the teacher variable was removed and further, that the teacher gave the control group almost exactly the same program (books, curriculum, etc.) which they would have received had they been in the team program. The comparison seems to show that, in terms of the test results at least, this team group attained results as good as those of the comparable control group. The two scores--team, 2.59 gain; and control, 2.43--are very close indeed. Both team and control groups were of similar ability ("B-C")

Student Questionnaire

These questions, taken from the anonymous student questionnaire, seem to have some significance:

	More	Same	Less	No Answer
Did you feel you learned as much here as you would have done in normal classes?	40%	44%	11%	4%
How effective was the small group instruction (in writing and discussion)?	76%	11%	7%	7%
Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class)?	20%	62%	18%	0%
Did you feel that you made progress in learning to think for yourself?	38%	42%	11%	9%

For a complete tabulation, see Appendix C.

The highest rating here, as in other team groups, was in the students' opinion that the small group work is effective. Small group work (10-15 students) is apparently much desired by the students.

Teacher Questionnaire

The teachers were asked to give responses to a questionnaire which was geared to "more", "same", and "less", in comparing this class with a conventional one.

"More" responses were as follows:

Teacher school time available for organization, preparation
Additional outside time which you devote to preparation in this program
Your own evaluation of the effectiveness of your preparation
Opportunity to improve teaching skills and methods
Opportunity to concentrate on specific areas of interest
Ease of "grouping" students within a given class
Opportunity for supervised study
Time available for lectures and other activities
Development of student responsibility and independence
Challenge to students to do their best
Opportunity for student creativity
Your general impression of student learning taking place in this program

"Same" responses were as follows:

After your initial large group presentation, how comfortable did you feel working with these large classes?
Availability of time for working with individual students on assignments
Opportunity to become personally acquainted with individual students and offer guidance
Time available for student diagnosis and parent consultation
Opportunity for class discussion in this program
Outside preparation required of students in this program
Student attention in class in this program
Discipline problems
Ease of grading

No "less" items were marked.

Teachers were asked to list the strongest and weakest features in the team teaching program.

Strongest:

Quality of teacher preparation
Better opportunity for student learning
Varied program within each teacher's talent area
General climate and atmosphere of teams

Weakest:

Dependent students cannot assume the independent responsibilities required
"Slow" learner needs repetitive work and cannot obtain it in large group endeavors

Teachers were further requested to give three basic guide lines for establishing a teacher team. Their responses were as follows:

1. Choose compatible team members
2. Group students carefully
3. Make thorough preparation

Tentative Conclusions

This particular teaching team seems now to be a permanent feature of the Hawthorne campus. It will be entering its third year in September, 1963, and both teachers now accept this program as a regular feature of their schedules. Its strengths, they feel, far outweigh its weaknesses.

Principal Strengths:

1. Better instruction: The preparation and research of the past two years can now be used without undue hardship by the instructors.
2. Coordinated, organized curriculum: Past planning, as well as experimentation during the past two years, has made possible a smooth program.
3. Utilization of teacher talent areas: The participating teachers expect to work in their own particular fields of interest and aptitude.
4. Class climate: With few exceptions, this particular team has been characterized by excellent student attitude and interest, making possible a fine atmosphere for rewarding teaching.
5. Freeing of teacher time: Participating teachers averaged nearly two free periods a week throughout the year. These periods, of vital significance to them, are one of the major rewards of this type of teaching.

Principal Weaknesses

1. Teacher schedules: The inability of the teachers to meet together during lunch or consultation created some minor problems. (This situation is being corrected for 1963-64.)
2. Needed spring curriculum reorganization: The meshing of small and large groups during the teaching of grammar and writing in the later months of the school year needs further study. The instructor of the larger group (45) must make assumptions about past student knowledge in English grammar which do not always hold true, creating some problems in continuity.

3. Room facilities: The room in which large group instruction (60) is held is barely adequate. There is no suitable place in the room for individual counseling which will not distract the class, the sound amplifier system is subject to breakdowns, and the blackout curtains (venetian blinds) do not suffice for this purpose.

These are the main strengths and weaknesses of the program. Perhaps implicit in its entire design, however, and very important thereto, is the fact that the novel, ephemeral aspects of the program no longer exist. Its present measure of permanence gives it a solidity which creates a good learning and teaching situation, one which seems to be borne out, superficially at least, in comparable test results.

ENGLISH IV: TWO TEACHERS--ONE PERIOD YEARLY PROGRAM

The yearly schematic outline which follows was prepared by the summer committee of 1961 and given to the teacher team. The plans for the first semester were followed rather closely; the plans for the second semester were altered to some extent since the student group did not participate in the six week reading laboratory program. These six weeks were utilized with a term-paper study, an extension of the vocabulary program, and further novel reading. The small writing groups were retained as shown in the schematic form.

CHART VI

ENGLISH IV: Reading, Literature, Spelling, and Vocabulary

1961-62 Large Group, Comprehensive Level

FIRST SEMESTER

Week	Unit	Monday	Tuesday	Wednesday	Thursday	Friday
Sept 11-15	Short Story	B. L.	B. L.	D. L. — Sp.	D. L.	D. R.
Sept 18-22		B. L.	D. L.	D. L. — Sp.	D. L.	D. R.
Sept 25-29		B. L.	D. L.	Sp.- Re. L.	Re.L.	Test(stories)
Oct 2-6	Plays	B. L.	B. L.	Sp.—B. Rpt.	Cl. R.	D. R.
Oct 9-13		Cl. R.	Cl. R.	Sp.- Cl. R.	Cl. R.	D. R.
Oct 16-20		Cl. R	D. L.	Sp.-Re. L.	Re. L.	Test (plays)
Oct 23-27	Essays	B. L.	B. L.-D. L.	Sp. — D. L.	D. L.	D. R.
Oct 30-Nov 3		B. L.- D. L.	D. L.	Sp.— B. Rpt.	D. L.	D. R.
Nov 6-10	End of Qtr.	Re. L.	Test (essays)	Sp.— Final	D. R. Make-up	Qtr. grades
Nov 13-17	Biography	B. L.	D. L.	Sp.— Re. L.	Test (Biog)	D. R.
Nov 20-22	Novel	B. L.	B. L.-D. L.	Bk.Rpt. + Assigned Novel	THANKSGIVING	
Nov 27-Dec 1	Poetry	B. L.	B. L.	D. L.	D. L.	D. R.
Dec 4-8		D. L.	D. L.	D. L.— B. L.	Test (Poetry)	D. R.
Dec 11-16	Christmas work week	D. L. (addt'l Poet.)	D. L. (poet.)	D. L.- poetry-R. L.	2nd test-poetry	D. R.
Jan 2-5	Vocabulary		Vo.-B. L.	Vo.-B. L.	Vo.	D. R.
Jan 8-12		Vo.	Vo.	Vo.— B. Rpt.	Vo.	D. R.
Jan 15-19		Vo.	Re.-Vo.	Vo. (lists due)	Test (Vocab)	D. R.
Jan 22-26	end of semester	Open-Make-up	Open-Make-up	Re. Test (sp.)	open	Semester grades

SYMBOLS

B. L.	background lecture	Cl. R.	class reading
D. L.	discussion lecture	Sp.	spelling
D. R.	directed reading (class)	Vo.	vocabulary
Re	review	Poet.	poetry

SECOND SEMESTER

WRITING, READING LABORATORY, GRAMMAR

Week	Unit	Monday	Tuesday	Wednesday	Thursday	Friday
Jan 29-Feb 2	Reading Laboratory (all)	R. L.	R. L.	R. L.	R. L.	R. L.
Feb 5-9		R. L.	R. L.	R. L.	R. L.	R. L.
Feb 13-16		R. L.	R. L.	R. L.	R. L.	R. L.
Feb 19-21, 23		R. L.	R. L.	R. L.		R. L.
Feb 26- Mar 2		R. L.	R. L.	R. L.	R. L.	R. L.
Mar 5-9		R. L.	R. L.	R. L.	Bk. Rpt.	Final Rdg. Test
Mar 12-16	Grammar Review B*CD	G. R.– B. L.	G. R.—D. L.	G. R.– D. L.	G. R.– D. L.	D. R.
Mar 19-23		G. R.– Re.	Test Grammar	G. R.– D. L.	G. R.– D. L.	D. R.
Mar 26-30		G. R.– D. L.	G. R. Bk. Rpt.	Test Grammar	Make-up D. R.	Qtr. Grade
April 2-6	Grammar and Sentence Structure ACD*	S. S.– B. L.	S. S. – D. L.	S. S. – D. L.	S. S. – D. L.	D. R.
April 9-13		S. S.– Re.	Test S. S.	S. S. – D. L.	S. S. – D. L.	D. R.
April 23-27		S. S. – D. L.	S. S. – D. L.	Bk. Rpt. S. S.–Re.	Test S. S.	D. R.
Apr 30-May 4	Advanced Grammar ABD*	A. G. – B. L.	A. G.– D. L.	A. G. – D. L.	A. G.– D. L.	D. R.
May 7-11		A. G.– Re.	Test A. G.	A. G. – D. L.	A. G.– D. L.	D. R.
May 14-18		A. G.– D. L.	A. G. – D. L.	A. G. Bk. Rpt.	Test A. G.	D. R.
May 21-25	Punctuation ABC*	P.– B. L.	P. –D. L.	P. – D. L.	P.– D. L.	D. R.
May 28-June 1		P.– Re.	Test P.	P. – D. L.	P.– D. L.	D. R.
June 4-8		P.– D. L.	P.– D. L.	Bk. Rpt. – P.	Test P.	Open
June 11-14	Open Make-up	Open	Open	Open	Final Grades	

[1] The 60 students are divided into four small groups with these designations: 1-15, Group A; 16-30, Group B; 31-45, Group C; 46-60, Group D. The purpose of this division is for facilitating small group work for a specific reason—library, writing, etc.

*Group A receives concentrated writing during March 12-30, Group B during April 2-27, Group C during April 30-May 18, and Group D during May 21-June 2.

SYMBOLS

R. L. - Reading Laboratory
G. R. - Grammar review
B. L. - Background lecture
S. S. - Sentence structure
P. - Punctuation
A. G. - Advanced grammar
Re. - Review
D. R. - Directed reading
D. L. - Discussion lecture

INTERSPERSED ELECTIVE--JUNIOR ENGLISH

Description

Fifty-six Hawthorne High School students, "A-B" pupils with heavy college preparatory programs, were placed with two teachers for a one-hour English class, Period 6. An aide was available for two class hours (Thursday and Friday) each week. The hypotheses to be tested were:

1. Can students show as much growth in English proficiency with three days of study as control groups do in five?
2. Is a two day elective (non-English) workable and effective?
3. Which elective area, academic or non-academic, is better suited for a two day a week program?

During the first semester the class met for five periods a week while American Literature was studied; during the second semester the class met for English lessons of various natures Wednesday, Thursday, and Friday, dispersing on Monday and Tuesday to spend two days in fourteen different elective areas, some of which were strictly academic, some mainly vocational.

1. Academic (college preparatory) areas included: Creative Writing, German, Spanish, Algebra, History, Reading Laboratory, Senior Seminar, and Chemistry.
2. Vocational and Fine Arts included: Art, Typing, Business Machines, Clerical Practice, Drafting, Music (Piano), Electric Shop, Print Shop, and School Yearbook.

Elective teachers were given the following options in regard to the grading of students:

1. 40% (two days) of the total semester grade
2. no specified grade but a general recommendation
3. no grade whatsoever

The elective teachers used these options as follows:

1. 40%--30 students
2. no specified grade but a recommendation--12 students
3. no grade or recommendation--14 students

These grades or recommendations were carefully observed by the team teachers in their making up of the grades for the students. The pupils, as well as the elective teachers, understood clearly that these elective grades, if given, would count toward the total English grade.

In addition to the above electives, both academic and vocational, all of the students in the class were given the opportunity for an elective in Speech, a special section which met every Friday under one of the team teachers. Half the class (twenty-eight) volunteered for the Speech elective, leaving them with only two days of formal English instruction. Those not volunteering for speech work remained in the classroom for review purposes and for homework or independent study, usually under an aide. No formal instruction or new work was begun by the teachers on Fridays for this remaining half of the class.

The evolution of the class may be best seen in schematic designs. The summer committee had believed that a workable design could be set up in this fashion:

Monday	Tuesday	Wednesday	Thursday	Friday
English	Elective	English	Elective	English

However, organizing the interspersed elective brought some modifications in design. Both elective teachers and English teachers realized that the subject areas should not be broken up. The result of their thinking was as follows:

Monday	Tuesday	Wednesday	Thursday	Friday
Elective	Elective	English	English	English

This schedule was employed throughout the semester and worked rather well. In a short time the Speech group had become established as a weekly event, and the schedule looked like this:

Monday	Tuesday	Wednesday	Thursday	Friday
Elective	Elective	English	English	English or Speech

In effect, then, English as a formal course of instruction was conducted only two days a week; two-day electives, both academic and vocational, took place; and half the class received one day's training each week in Speech.

Facilities

One large classroom, seating sixty students at individual desks, was available. This room had a speaker stand, two teachers' desks, motion picture curtains, extra blackboards, and a sound amplifier system. In addition, a smaller empty classroom was close by, permitting the teachers to divide classes as they wished.

Evaluation

The Educational Testing Service Cooperative English Test (1960), Form 2A, was administered in September; form 2B was given in May. Two control groups, juniors of roughly equivalent ability, were given these same tests at these times.

Evaluation Results

The achievement gain, as measured by this test, was 2.63, a figure above the control groups and other upper grade teams. The English III-U. S. History team, for example, showed 2.38, while two non-team control groups of comparable students showed 1.63 and .5 respectively. The first control group (1.63) was under the direction of an excellent veteran teacher; the second (.5) was under the direction of an inexperienced teacher, making its showing subject to serious question.

With regard to matched pairs, an innovation in matching techniques was employed with the students from the English interspersed elective and control programs. Since the students from the team class participated in both writing elective areas (Creative Writing, Annual, language study, etc.) and in non-writing areas (shops, business machines, etc.), it was possible to obtain three identifiable groups: (a) students having a writing elective, (b) students having a non-writing elective, and (c) control students (conventional English classes). Ten students were matched from each of the three groups, making a total of thirty. Their respective scores and the matching employed are listed in Appendix G.

Results were as follows: Group I, the non-writing people, averaged a net composite gain of 3.5; Group II, the writing elective people, averaged 1.7; and Group III, students from the conventional control groups, averaged 1.6. The national mean gain, computed by subtracting the eleventh grade norm from the twelfth grade, is 1.3. Thus all three groups performed well in terms of a national average, but the best gain of the three groups tested was exhibited by those students who spent only three days a week in English classes.

If the actual numbers (thirty) involved had been larger, some significance could be placed upon these results, for the gain obtained by these ten non-writing elective students was quite remarkable. It must remain a surface observation, however, that taking students from conventional classes and giving them opportunity for elective programs causes no loss in measured progress in that class. It seems very clear, however, that further studies of this nature should be undertaken.

Student Questionnaire

For a full tabulation of student responses, see Appendix E. Most indicative responses to the student questionnaire were as follows:

	More	Same	Less	No Answer
a. Did any teacher have problems in student discussion when he took the class alone (as compared to a smaller, normal class)?	6%	38%	48%	8%
b. Did you have the chance to be creative--that is, write, study, or work on your own ideas?	63%	25%	12%	0%
c. Did you feel you made progress in learning to think for yourself?	54%	42%	4%	0%
d. Has your ability to work independently (without supervision) improved in team classes?	67%	29%	4%	0%
e. Are you generally satisfied with your team class this year?	67%	29%	4%	0%
f. Do you feel this type of class prepares you for college work?	88%	8%	2%	2%

Student Subjective Questionnaire Concerning Elective Program

At the conclusion of the year, students were asked to make a written statement giving their opinions of the elective program. The response was overwhelmingly favorable, with 82% of the class rating it as excellent or very good. Only four people of the 56 expressed dissatisfaction with the program. Results were as follows:

Excellent	31%
Very good	51%
Good	6%
Fair	4%
Poor	8%

The following anonymous student answer shows very clearly the positive side of the program:

> "Elective--Creative Writing:
> I felt this was a worthwhile opportunity to broaden my horizons. Since in college I will most likely follow a math-science curriculum, I have spent most of my high school career in mathematics and science. This was the first time I was able to get a foothold in the liberal arts. With the high school curriculum becoming more and more rigid, the elective program is becoming a necessity to broaden the scope of learning of the student."

Teacher Questionnaire

The two teachers of this class were asked to fill out questionnaires in which they compared this class with a conventional class. Their responses were listed as "more", "same", or "less".

"More" responses were as follows:

Teacher school time available for organization, preparation
Additional outside time which you devote to preparation in this program
Your own evaluation of the effectiveness of your preparation
Opportunity to improve teaching skills and methods
Ease of grouping students within a given class
Time available for lectures and other activities
Development of student responsibility and independence
Challenge to students to do their best
Opportunity for student creativity

Outside preparation required of students in this program
Your general impression of student learning taking place in this program

"Same" responses were as follows:

After your initial large group presentation, how comfortable did you feel working with these large classes?
Availability of time for working with individual students on assignments
Opportunity to become personally acquainted with individual students; offer guidance
Time available for student diagnosis and parent consultation
Opportunity for class discussion in this program
Opportunity for supervised study
Student attention in class in this program
Ease of grading

"Less" responses consisted of only one comment: Discipline problems

Teachers were asked to give the strongest and weakest features of this interspersed elective team.

Strongest:

Elective program provides badly needed change of pace
Strongest abilities of each teacher are used
Program makes possible a "full-steam-ahead" opportunity for the eager student
More individual help may be given

Weakest:

A better physical facility is needed, with improved audio-visual equipment, booths, etc.
More team teacher planning time is required

Teachers were further asked to list three basic guide lines for establishing a teacher team of this nature. The guide lines suggested were these:

1. Establishing a workable interspersed elective program requires cooperation from and opportunity for communication with all school personnel.

2. Constant and intensive evaluation of a program such as this is mandatory, so sweeping are its implications.

3. Congenial, flexible teaching personnel must be used.

Tentative Conclusions

It is apparent that the elective program raises some disturbing questions and may point the way to general expansion of elective programs. As all who are involved in student scheduling know, the college preparatory student is in large measure in an academic strait jacket; he has very little room for electives, particularly in the performing and vocational arts areas. Unless he is enrolled in a wealthy school district which may be able to shorten periods and extend the day, creating opportunity for these classes, the chances of participating in such programs are confined to extra-curricular or summer programs. If continued experimentation substantiates the overall impression of Centinela Valley District's interspersed elective program, however, and if further expressions of the program are made workable, then the possibilities of furnishing a student with many elective areas, with no harm done to his academic program, seem good.

It may with justice be pointed out that there are severe limitations in the current interspersed elective study--paucity in the number of participants; ephemeral, novel aspects; shaky dependence on test results; and other limitations. These facts remain, however:

1. Students were extremely enthusiastic and cooperative, causing no trouble of any nature in elective areas.
2. Elective teachers, despite the obvious fact that they were accepting more work for themselves by permitting students to enroll in their classes two days a week, were enthusiastic about the program.
3. Of the four teams evaluated at the eleventh and twelfth grade levels at Hawthorne High School, this group outdistanced the others in terms of test results.

4. This program, conceived rather hastily during the fall semester without any detailed pre-planning, functioned rather well; further planning and coordination, particularly with some juggling of the school master schedule to facilitate more elective choices, would strengthen success possibilities to a marked degree. One elective teacher accepted as many as eight students two days a week, a definite added burden; it would have been easier for all concerned had the elective choices been so broad that no more than three students might have been scheduled into a particular elective area.

Modifications Contemplated in the Interspersed Elective Plan for 1963-64

Plans for next year propose establishing the same team with interspersed electives as was followed in 1962-63, with one exception: the students will not be "A-B" students with heavy college preparatory loads; they will be students of "B-C" ability levels, with an equal proportion of college preparatory and terminal students. The reason for this change is not dissatisfaction with the present plan; rather it is to test the feasibility of an elective program with a wider student population base. "A-B" students are of course few, proportionately; "B-C" students are much more numerous, and if the plan is successful with them, more widespread elective programs can be instituted.

ENGLISH III--U. S. HISTORY, BACK-TO-BACK

Description

Sixty Hawthorne High School students with past school records at "B-C" grade levels were placed in one large room for two periods (Periods 2 and 3) with two teachers. One teacher taught English; the other, U. S. History. An aide was available for four class hours each week.

This class was primarily one of large group instruction, although some small group work was done with the students in conjunction with the school reading laboratory, when the class was divided with the aid of a reading specialist. The result of these divisions was that all students received small group work in reading for nearly one month. Almost all other instruction throughout the year was of the large group variety, with a particular emphasis on high quality, in-depth, lecture situations. The aide was used for paper correction, for lecture research and for various types of material preparation; he supervised classes rarely.

Facilities

One large room seating sixty students, was available both periods. Audio-visual aids included films, tape recorder, a sound system and a speaker stand. A smaller room was nearby but rarely used.

Evaluation Instruments

1. English--ETS Cooperative English Test (1960), Form 2A, was administered

in September; Form 2B was administered in May.

2. U. S. History--ETS Cooperative History Test (761-84-1), Form Y, was given in September; Form 2 of the same test was given in May.

Evaluation Results

1. English--Team students averaged a net gain on the composite score of 2.38, as compared to a national norm gain of 1.3.* One control group of comparable ability under an excellent veteran teacher averaged 1.63; another control group of comparable ability under an inexperienced teacher averaged .5. The team teacher of English had no control groups, a factor which obviously limits any conclusions which might be drawn from the above figures.

2. History--The evaluation of the history group had one added feature which has some bearing on the results obtained: the team teacher had two control groups in addition to his team group. One of these control groups (designated as Group F) was slightly better academically than was the team; the other (designated as Group G) was somewhat less capable. The results, figured in percentile average, are as follows:

	Pre	Post	Net Gain
Team Group	17.5	87.6	70.1
Control			
Group F	22.6	84.6	62.0
Group G	12.1	79.3	67.2

While it may be argued with validity that group comparisons of this nature are precarious when the groups themselves are not of equal ability, note that the team group scored a higher composite gain (70.1) than did either the stronger control (Group F--62.0) or the weaker (Group G--67.1).

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*See p. 14 of Cooperative English Tests, Technical Report, to examine appropriate mean scores.

These differences, however, are not great enough to be conclusive in any way. It could be stated with some assurance that the team groups did at least as well as the teacher's control classes, in terms of this test.

Student Questionnaire

Several questions and student responses which appear to be significant are listed below. For a complete tabulation, see Appendix F.

		More	Same	Less	No Answer
a.	Did you have the chance to be creative-that is, write, study, or work on your own ideas?	64%	26%	9%	2%
b.	Did you make many new friends among other pupils in team classes?	59%	36%	5%	0%
c.	Do you feel this type of class prepares you for college work?	57%	22%	7%	14%
d.	Were the teachers normally prepared for lectures and discussions?	53%	43%	0%	3%
e.	How effective was the small group instruction (in writing and discussion)? (Note--there was little small group work, as compared to other teams).	31%	55%	14%	3%

Note that the students believed they had opportunity for creative work, even though there was little small group work. Notice, too, that the teacher preparation for lectures was clearly apparent to the students.

Teacher Questionnaire

The two teachers who conducted this two-hour, back-to-back class filled out the same teacher questionnaire as did other teachers in team teaching programs, basing their answers on comparisons with conventional classes. Their responses did not always coincide, perhaps showing some differences in teaching philosophies. Areas of agreement, however, were in these vital areas:

"More" responses were as follows:

Teacher school time available for organization, preparation
Additional outside time which you devote to preparation in this program
Your own evaluation of the effectiveness of your preparation
Opportunity to improve teaching skills and methods
Opportunity to concentrate on specific areas of interest
Time available for lectures and other activities
Your general impression of student learning taking place in this program

"Same" responses were as follows:

Ease of grading
Discipline problems

"Less" responses were as follows: Availability of time for working with individual students on assignments

The only outright disagreement ("more" or "less") was in this area: Ease of grouping students within a given class.

In all other areas questioned, the different viewpoints were shown in "more" and "same", or "same" and "less", rather than in "more" and "less".

These teachers were asked to list the strongest and weakest features of this two-hour class.

Strongest:

Developed student independence and learning efficiency
Sizable time savings for students and teachers were made
Inherent flexibility of program made a varied schedule possible

Weakest:

A few irresponsible students can retard progress and increase discipline problems
Teachers did not take full advantage of the time-flexibility potential

Teachers were asked to give guide lines for the establishment of a teacher team such as this. Their comments were these:

Teacher A:

1. Combine a seasoned teacher with a new teacher to provide training and guidance

2. Screen out discipline cases from large group endeavors

3. Furnish adequate aide assistance to compensate for additional preparation necessary.

Teacher B:

1. Utilize the flexibility possible in such a plan by varying schedule patterns as the need arises

2. Use small groups as frequently as possible for better instruction

3. Utilize the large group method of instruction only when necessary or efficient

Tentative Conclusions

The academic showing of this team class seems strong both in English and in history. As stated earlier, it is unwise to base any conclusions on test measurements of this nature. In the case of history, however, the findings have the added advantages of not involving a teacher variable, and of measuring both high and low control groups, and still showed a superior gain by the team group.

This team spent most of its time in large group work. There was a minimum of small (10-15) student group work, the emphasis being placed on the large group lecture method. This team, then, did not concentrate on what is normally thought of as a vital ingredient of team teaching--the small discussion group--and still displayed a strong gain in academic growth. In view of the strong achievement shown in both study areas, however, it seems apparent that the absence of small group work was adequately counterbalanced by the excellent teacher preparation. Unanswered, of course, is the question as to how well or how poorly the group might have done had there been a considerable amount of small group work.

This plan of back-to-back classes has some distinct advantages in

(a) teacher time saved, (b) intra-schedule flexibility gained, and (c) at least comparable learning accomplished.

ENGLISH III--U. S. HISTORY, BACK-TO-BACK

The two charts which follow, p. 52, were prepared by the '62 summer Staff Utilization Committee and given to the participating teachers. These people were free to use them or to devise plans of their own.

Since aide time was cut to four hours (one class hour each day except for Wednesday), the teachers had to change the plans. In general, the two teachers followed a large group lecture pattern throughout the year, in one of the designs below or in one closely comparable to them:

Plan A

Period I	History	History	History	History	History
Period II	English	English	English	English	English

Plan B (equallizing aide time)

Period I	History	English	History	English	History
Period II	English	History	English	History	English

or Plan C, giving longer blocks for certain purposes

Period I	HISTORY	ENGLISH	HISTORY	ENGLISH	History
Period II					English

CHART VIII

ENGLISH III - U.S. HISTORY, BACK-TO-BACK

60 STUDENTS-2 TEACHERS-1 AIDE

PLAN A - LARGE-GROUP MODE

Module	Monday	Tuesday	Wednesday	Thursday	Friday
9:20-9:50	History—L.G. 60	History Film Presentation and Discussion (use of aide?) 60	English—L.G. 60	English — Review 60	History Evaluation under Aide 60
9:50-10:20	Accel Group 6-8 Rem Group 10-12		& English Writing L.G. – Aide 60	English Evaluation L.G.– Aide 60	
10:20-10:50					Open time Projects? L.G. 60
10:50-11:20	English L.G. 60	English L.G. 60	History L.G. 60	History Review L.G. 60	English (reading-study) 60 – Aide

Aide's hours: Monday, 9:50-10:50; Tuesday, 9:50-10:50; Wednesday, 9:50-10:50; Thursday, 9:50-10:50; Friday, 9:20-11:20; a total of 6 hours.

Teacher saving in time: English—5 to 61/2 hours, depending on the use of aide; History—5 to 6 1/2 hours, depending on the use of aide.

Plan uses little small-group work, but does give much preparation time.

See alternate Plan B (below), same schedule, stressing small group.

CHART IX

PLAN B-SMALL-GROUP MODE

9:20-9:50	History-L.G. 60	History- L.G. Discussion-60	English-L.G. 60	Eng X_1 15 Hist X_2 15 Study (Aide) 30	Hist X_1 15 Eng X_2 15 Study (Aide) 30
9:50-10:20	Accel Group 6-8 Rem Group 10-12 Indep. study and research Aide 40	& Film Presentation L.G.-Aide-1hour 60	& English Class Writing L.G.-Aide 60	Y_1 15 Y_2 15	Y_1 15 Y_2 15
10:20-10:50				History Evaluation L.G.-Aide 60	English Evaluation L.G.-Aide 60
10:50-11:20	English L.G.-60	English L.G.-60	History L.G.-60		

Aide's hours: 7 hours a week—1 each, Monday, Tuesday, Wednesday; 2 each, Thursday, Friday.

All students meet in small groups twice, once under each instructor.

Accleerated and Remedial students meet once in special small groups in addition to the regular small groups.

Teacher saving in time: English—5 1/2 hours (time not actually in classroom)
History—5 1/2 hours (time not actually in classroom)

ENGLISH IV: TWO TEACHERS--WRITING GROUP

Description

Two teachers met Period 1 each day with sixty English IV students. Most of the students were of "C" academic proficiency; a few were of "B". The majority of them were terminal students.

The somewhat unique feature of this plan was that every day throughout the year began with a short writing period, five or ten minutes in length. An open-end topic (i.e.--"I think James Meridith ....") was placed on the board to start the period. No advance preparation was given. The result, of course, was that a considerable body of impromptu writing, normally of paragraph length, was done during the year.

There was no small group work of any nature other than individual counseling. An aide was available two class hours a week; his function was primarily to assist in the grading of the written papers or to control the class while the instructors were absent with other activities.

Facilities

One large room, with individual desk seating for sixty students, was used. A sound amplifier system, blackout curtains, screen, two teacher desks and a podium completed the audio-visual equipment. Another smaller room was available nearby for individual counseling.

Evaluation Instruments

English Cooperative Test (1960) of Educational Testing Service, Form 2A, was administered in September; Form 2B of the same test in June.

Evaluation Results

Net composite gain averaged 1.85 on the 2B form of the test, as compared to a national mean gain of 1.3. A control group of comparable ability averaged 1.63, but this control group was not taught by either of the team teachers. The gain by the team class must be thought of as equal to a comparable group in a conventional situation. It is possible, moreover, that the heavy emphasis on individual student writing cannot be adequately measured by this test or any other. The writing gains, while unquestionable, are probably very subjective in nature.

Student Questionnaire

		More	Same	Less	No Answer
a.	Was individual attention given to you by teachers?	38%	45%	15%	2%
b.	Could you hear the lectures and see the blackboard in the larger room?	18%	77%	5%	0%
c.	Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class)?	0%	58%	42%	0%
d.	Did you have the chance to be creative--that is, write, study, or work on your own ideas?	85%	10%	5%	0%
e.	Did you feel that you made progress in learning to think for yourself?	65%	25%	10%	0%
f.	Is the large group lecture generally interesting?	58%	38%	5%	0%
g.	Are you generally satisfied with your team class this year?	65%	28%	8%	0%

See Appendix D for a complete tabulation of student responses.

Teacher Questionnaire

The two teachers who conducted this team class in English answered the same questionnaire to give their opinions of their team program. Their rating of this class, as compared to a conventional class, was definitely very high. Of all twenty-two items on the questionnaire, only seven received a rating of "same" or "less"; all others received "more".

"Same" responses were as follows:

Ease of grouping students within a given class
Development of student responsibility and independence
Challenge to students to do their best
Student attention in class to this program
Ease of grading

"Less" responses were as follows:

Discipline problems
Opportunity for student creativity*

The teachers, when asked for the strongest and weakest features of team teaching, did not give specific areas; rather they pointed out that "the idea of team teaching is a strong feature; the fact of superimposing the new idea onto the same old pattern is a weak feature." Since their overall rating on the program is superior, this comment must be accepted positively, and the willingness and necessity for further extension of team teaching ideas are implicit in the statement.

When asked for guide lines for the establishment of a teaching team, the teachers gave this advice:

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*This teacher comment is quite at odds with the students' rating (creativity "more" 85%). Students apparently interpreted their writing each day as creativity; teachers seemingly did not.

1. Assume the status quo is inadequate. Be imaginative.
2. Assume the status quo is unrealistic. Be honest.
3. Remember you are an artist. Be creative.

It would appear that the team approach gave them the opportunity to follow these guide lines; and the proffered advice is given under the assumption that the team class has already been established.

Tentative Conclusions

Inasmuch as the students and teachers were quite satisfied with the program and the measured proficiency of the students was better than satisfactory, the success of this program seems evident. Sinch this team structure paralleled in many respects the English IV, two teacher block previously described, the advantages and disadvantages of this program are comparable to it and are not enumerated here. It is perhaps noteworthy to point out that the success of this writing group team effort was accomplished without small group work, showing, as do other sections of this total evaluation study, that there are no hard and fast rules in the designing of efficient teaching groups. The advice of the participating teachers--to be honest, creative, and imaginative--seems valid.

ENGLISH I--SCIENCE, BACK-TO-BACK

Sixty ninth grade English-Science students at Leuzinger High School were scheduled back-to-back to provide a flexible two-period time block. Thirty students in Group A had English period 2, General Science period 3. Thirty students in Group B had General Science period 2, English period 3. (See Charts at end of this section.) Both had the same two teachers. Hence the science teacher sometimes retained Group A for a two period demonstration with follow-up experiment on Tuesday, for example, while the English teacher worked for two periods with Group B; on another day of the same week the pattern was reversed. On some occasions, all sixty students spent two periods in English class for presentation of individual projects such as their symposium on "The World of Charles Dickens." Films were shown once to the combined group rather than twice to smaller groups--and during the filming, one teacher was freed for preparation of lessons. Students were dispatched in groups of fifteen to the community library for the librarian's story-telling series--a typical small-group activity made possible by the longer time block.

At the end of the school year, students in the back-to-back group and those in a regular English class of comparable ability were administered the Cooperative English Test, 1943 edition, Tests A and B1: Expression. Twenty-eight pairs--twelve boys and sixteen girls--were matched on the basis of sex, age, and the CTMM verbal score. For both groups, the mean CTMM verbal score was 115.9.

On Test A, Mechanics of Expression (Grammatical Usage, Punctuation, Capitalization, Spelling), the experimental, or back-to-back, group scored a mean percentile of 57.5, while the control or "regular" group scored 60.1. On Tesl B1 (Sentence Structure and Style, Diction, Organization), the experimental group scored a mean percentile of 70.0, while the control group scored 64.2. In the absence of a pre-test to make possible an accurate measure of the year's growth, it can be said only that the two groups appear to have had approximately the same outcomes in certain areas of the fundamentals of English. No objective means were found to measure other areas of enrichment or breadth of experience.

Students in the experimental group answered a questionnaire designed to find out what they thought were the advantages and disadvantages of the English segment of their back-to-back schedule. For a full tabulation of responses see Appendix H. Areas in which fifty percent or more of students felt they had superior opportunities were as follows:

Chance to enjoy change of pace in learning: 72%
Chance for group discussion of interesting ideas: 63%
Opportunity to have a variety of things to do: 76%
Opportunity to talk with the teacher: 52%
Opportunity to use the library: 57%
Opportunity to hear outside speakers: 63%
Opportunity to visit places other than school: 56%
Opportunity to take notes: 76%
Opportunity to use initiative in finding things out for yourself: 54%
Feeling that you can take classwork problems to the teacher for help: 52%
Relaxed atmosphere in class: 63%

Fifty percent or more expressed a sense of limitation in two areas:

Opportunity to listen to records: 80%
Opportunity to discuss what's in the news: 59%

The teacher questionnaire was geared to responses of "more", "same", or "less" in comparing the back-to-back design with the conventional. "More" responses were as follows:

Your own evaluation of the effectiveness of your preparation
Opportunity to improve teaching skills and methods
Opportunity to concentrate on specific areas of interest
Ease of "grouping" students within a given class
Opportunity for supervised study
Time available for lecturers and other activities
Development of student responsibility and independence
Challenge to students to do their best
Opportunity for student creativity
Outside preparation required of students in this program
Student attention in class in this program
Ease of grading
Additional outside time which you devote to this program

"Same" responses were as follows:

After your initial large group presentation, how comfortable did you feel working with these large classes?
Teacher school time available for organization, preparation
Availability of time for working with individual students on assignments
Opportunity to become personally acquainted with individual student and offer guidance
Time available for student diagnosis and parent consultation

"Less" responses were as follows: Discipline problems

Both the English teacher and the General Science teacher involved expressed satisfaction with the back-to-back program and its outcomes and recommended continuation of the design in '63-64.

Primarily the program had been intended to provide a more flexible time block for scheduling of laboratory activities in science. A similar program combining junior English and Chemistry was in operation, and both science teachers felt that the availability of a two-hour block offered many advantages in time scheduling. The English teachers found several advantages and no disadvantages as long as they provided a sufficient variety of activities when students were in English for a longer time period. A fuller evaluation design to embrace all four classes is projected for '63-64.

CHART X

VARIATIONS ON TWO-HOUR BACK-TO-BACK ENGLISH-SCIENCE SCHEDULE

Plan A Two two-hour lab periods per week per student, always in groups of thirty:

	M		T		W		Th		F	
Period I	Eng A	Sci B	Eng B	Sci A	Eng A	Sci B	Eng B	Sci A	Eng A	Sci B
Period II	Eng A	Sci B	Eng B	Sci A	Eng A	Sci B	Eng B	Sci A	Sci A	Eng B

PLAN B One two-hour lab per week per student, always in groups of thirty:

	M		T		W		Th		F	
Period I	Eng A	Sci B	Eng A	Sci B	Eng A	Sci B	Eng B	Sci A	Eng A	Sci B
Period II	Sci A	Eng B	Eng A	Sci B	Sci A	Eng B	Eng B	Sci A	Sci A	Eng B

Plan C One module (half hour) of large group presentation per week per student in each subject, and one three module lab period per week per student in each subject:

Period	Module	M		T		W		Th		F	
I	1	Eng A 30	Sci B 30	Eng A & B 60		Eng A 30	Sci B 30	Sci A & B 60		Eng A 30	Sci B 30
	2			Eng A 30	Sci B 30			Sci A 30	Eng B 30		
II	3	Sci A 30	Eng B 30			Sci A 30	Eng B 30			Sci A 30	Eng B 30
	4										

PLAN D One module of small group instruction per week per student in each subject:

Period	Module	M		T		W		Th		F	
I	1	Eng A 30	Sci B 30	Eng 15	Sci 45	Eng A 30	Sci B 30	Eng 15	Sci 45	Eng A 30	Sci B 30
	2			Eng 15				Eng 15			
II	3	Sci A 30	Eng B 30	Eng 45	Sci 15	Sci A 30	Eng B 30	Eng 45	Sci 15	Sci A 30	Eng B 30
	4				Sci 15				Sci 15		

PLAN E Two modules of small group instruction per week for fifteen accelerated students and two modules for fifteen remedial students in each subject:

Period	Module	M		T		W		Th		F	
I	1	Eng A 30	Sci B 30	Eng Acc 15	Sci A & B 45	Eng A 30	Sci B 30	Eng Rem 15	Sci A & B 45	Eng A 30	Sci B 30
	2										
II	3	Sci A 30	Eng B 30	Eng A & B 45	Sci Acc 15	Sci A 30	Eng B 30	Eng A & B 45	Sci Rem 15	Sci A 30	Eng B 30
	4										

PLAN F One module of large group presentation per week per student in each subject, one three module lab period per week per student in each subject, plus one small group instruction period per week per student in each subject:

Period	Module	M		T		W		Th		F	
I	1	Eng A & B 60		Eng A 15	Sci 45	Sci A & B 60		Eng B 15	Sci 45	Eng A 30	Sci B 30
	2	Eng A 30	Sci B Lab 30	Eng A 15		Eng B 30	Sci A Lab 30	Eng B 15			
II	3			Sci A 15	End 45			Sci B 15	Eng 45	Sci A 30	Eng B 30
	4			Sci A 15				Sci B 15			

PRECEDING PAGE MISSING FROM ORIGINAL

THE MULTI-TEACHER CLASS IN GOVENRMENT

The team teaching program in Senior Government at Lawndale High School does not involve any changes in the daily bell schedule nor does it require an integration of the subject matter of any other subject. It is simply an attempt to utilize more effectively the class time of both the students and teachers. Of special importance in this program is the fact that it has been carried out with no additional expense, such as teacher aides, while at the same time it has freed the teacher for planning and small group instruction. Of particular note is the fact that this program has included all of the senior students enrolled in United States Government, a required course.

Description

This program of team teaching in the Senior Government Classes at Lawndale High School has been in operation since September, 1961. Its general structure consists of the utilization of three teaching periods and the preparation period of two teachers.

Each of the three teaching periods (2nd, 3rd, and 4th periods) is the equivalent size of two traditional classes. Presently, they range in size between fifty and seventy students and include all seniors except those who may have completed United States Government and International Problems in summer school. Both teachers have their 1st period preparation, which has been utilized for planning, grading of papers, etc.

Teaching methods and procedures employed in the program have varied, and, it is assumed, will continue to do so. Thus, the plan described below is the one most recently used. It includes the study of six units of work each semester as organized in Contemporary International Problems, a textbook prepared by teachers of the Centinela Valley Union High School District. Each unit is three weeks in length, with the fifteen days of each unit divided as follows:

5 days: Large Group Instruction including teacher lectures, movies guest lectures, filmstrips, and tape recordings.

4 days: Individual Study and Small Group Discussions. Each teacher spends one day with a group of seven or eight students (1/8 of class) in small group discussions while the remainder of the class does individual study such as answering of "non-research" textbook questions and opinion essay questions. Thus, each student spends one period in a small group during each unit.

3 days: Student Presentations. These include student debates and panel discussions providing for class participation.

1 day: "Special Assignment" Planning. Teachers arrange special assignments according to individual student's interest. This may include debate planning, book reports, research papers, etc.

1 day: Review Activities. This may include "question" games, written review, film strips or some other appropriate review activity.

1 day: Unit Test. Administered to whole group, these are mostly objective but with one essay. They are corrected in class the same day.

Students are graded in each of the following in each unit:

1. Assigned Work. Includes five written assignments answering questions from the book and also lecture notes. The assignments are submitted for correction, returned to the student, and re-submitted at the end of the unit for grading.
2. Arranged Work. This is optional but includes book reports, research papers, debates, etc.
3. Unit Tests. (A final examination is given which carries weight equal to one full unit.)

The following is a typical calendar of a unit:

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	1. Introduce unit 2. Small Group Discussion 3. Large Group do Written Exercise	Teacher "A" Lectures Teacher "B" Preparation	(Small group-large group as on Monday)	Teacher "B" Lectures Teacher "A" Preparation	Student panel or debate
2	(Second week utilizes same pattern as first week)				
3	1. Large Group do Written Exercise 2. Teachers plan projects with individual students	Teacher "A" Lectures Teacher "B" Preparation	Student panel or debate	Review Activity	Administer and correct test

Facilities

The physical classroom situation originally consisted of an area of two classrooms and a closet. The wall between the classrooms has been removed, thus providing utilization of the two rooms as one. Movable divider-walls are used to divide one of the rooms into various numbers and sizes of committee rooms in which thirty-six students can be seated at tables. The other room is equipped with sixty-eight classroom desks and is used for large group instruction and/or individual study. The closet is utilized as the instructors' office, a classroom library, workroom, and supply storage area.

The room is equipped with an extra large screen which is used for movies, filmstrips and other visual equipment. Especially important in visual equipment is the overhead projector. Because of the large number of students, some must sit to the rear of the room; therefore the overhead projector is used almost exclusively instead of the blackboard.

Student Evaluation

Just prior to the end of the 1962-63 school year an evaluation questionnaire was administered to the students of this class. The students were asked to react as to whether they considered the team teaching program they had been involved in "more", "less", or "same" in terms of specific benefits to them as compared to a traditional classroom. They were also asked to write the grade they had received in the third quarter of the government class on their paper. This included 167 students divided as follows: A-20; B-45; C-45; D-36; F-21.

Some of the more significant questions have been selected and the responses are arranged according to grades. Note that the students' grades appear at the top of the chart. The comparison is with a traditional form of teaching and is recorded in terms of percentages.

Results of Student Evaluation Questionnaire

			A	B	C	D	F	Aug- All-grades
A.	Was individual attention given to you by teachers?	More	53	29	39	32	28	35
		Same	38	56	46	54	56	50
		Less	9	15	15	14	16	15
B.	Were the teachers normally prepared for lectures and discussions?	More	73	44	55	59	56	55
		Same	27	54	45	41	44	44
		Less	0	2	0	0	0	1
C.	Were you worried or disturbed at being placed under a team of teachers, rather than one? *Note: A "less" response is favorable to the program.	*Less	33	36	52	34	52	41
		Same	58	55	46	76	36	53
		More	9	9	2	0	12	6
D.	Did you feel you learned as much here as you would have done in normal classes?	More	63	31	35	32	36	36
		Same	37	54	50	56	44	50
		Less	0	15	15	14	20	14
E.	Were you challenged to work hard?	More	41	22	17	14	40	26
		Same	41	51	66	65	48	59
		Less	18	27	17	21	12	15
F.	Did you feel the teachers gave an organized course of instruction?	More	71	64	76	48	64	65
		Same	24	29	19	48	28	29
		Less	5	7	5	4	8	6
G.	Were the assignments clear?	More	48	35	48	46	40	43
		Same	48	61	47	50	40	50
		Less	4	4	5	4	20	7
H.	Did you have the chance to contribute ideas to the class?	More	52	29	29	25	20	29
		Same	44	56	56	65	72	58
		Less	4	15	15	10	8	13
I.	Did you have the chance to be creative--that is, write, study, or work on your own ideas?	More	57	64	60	35	48	54
		Same	28	25	35	62	40	38
		Less	13	11	5	3	12	8
J.	Could you take classroom problems to a teacher for help?	More	44	29	51	26	24	33
		Same	48	53	38	63	60	52
		Less	8	18	11	11	16	15
K.	Could you take personal (not school work) problems to the teacher?	More	15	2	18	3	8	9
		Same	60	59	49	55	56	54
		Less	25	39	33	42	36	37
L.	Is the large group lecture generally interesting?	More	28	22	32	35	52	32
		Same	40	52	33	31	20	39
		Less	32	26	35	24	28	29

		A	B	C	D	F	Aug-All-Grades
M. Was the grading policy clearly understood:	More	57	58	63	55	40	55
	Same	28	22	27	35	36	29
	Less	13	20	10	10	24	16
N. Are you generally satisfied with your team class this year?	More	76	55	64	56	36	58
	Same	14	34	27	37	44	31
	Less	10	11	9	7	20	11

Caution must be exercised in drawing conclusions from these responses. In general, the students responded favorably to the program. However, one must note certain inconsistencies. Whereas the students considered the teachers' lectures well prepared (Ques. B), they tended to find the lectures uninteresting (Ques. L); and whereas students felt easy access to teachers for "classroom problems" (Ques. J), they found it difficult to take personal problems (Ques. K) to the teacher.

As might be expected, the responses of the "A" students were more favorable than those of lower grades. This was particularly true in the case of learning (Ques. D) and in contributing ideas (Ques. H).

In addition to the above type of question, students were asked for comments of their own. These showed a mixed attitude toward the various aspects of the program. In general, however, the more favorable comments most frequently mentioned the variety of the program as being its chief advantage while the more unfavorable comments centered about the methods of grading.

Teacher Evaluation

Without question such a program as this requires cooperation and an industrious attitude by the teachers involved. Thus, any real disadvantages encountered by the teachers would have to be overcome or else the program itself would have to be terminated. Certain specific advantages, however, have been suggested by the teachers concerned:

1. Grouping. While the students are heterogeneously "grouped", they are homogeneously "taught", since they can be reached in both small group and large group situations. (Students are seated more or less in alphabetical order by rows, but "A" group students are seated in even numbered seats, while "C" group students are seated in odd numbered seats. The students do not realize this. Thus, small group discussions are sometimes homogeneous and sometimes heterogeneous, depending on whether "rows" or "seats" are taken to groups for discussion.
2. Student Comfort and Happiness. While at his own desk, the student feels as comfortable as in any other class. However, rather than always sitting at the same desk, he may look forward to the variety of going to the committee room and participating in other activities. Also, no student feels "grouped down" as he may in homogeneously grouped classes. Students also take some pride in being in the special "Senior Government Team Teaching Class."
3. Variety. Students can be offered a constant variety of instructional activities as described above. In addition, they have two teachers to listen to and two teachers from whom they can seek help.
4. Counseling.
    a. Scheduling is made easier due to heterogeneous grouping.
    b. General class counseling was conducted by the senior counselor by simply making a presentation to all seniors in three classes.
5. Individual Study. While one teacher is conducting the class, the other is free to arrange special projects and activities with individual students.

6. Outside lecturers. These can be arranged more easily since they can make three presentations in one morning and cover the whole senior class in the normal classroom situation. Several such speakers have been obtained during each semester the program has been in operation.

7. Advantages of teacher time.
    a. Improved discipline during the second year of the program, no discipline problems were encountered which required the teacher to take time to send or escort the student to the "office."
    b. Less frequent, and consequently better prepared, lecture presentations.
    c. Half as many tests to write and activities to create.
    d. Freedom to leave the classroom to prepare, etc.

Problems for Future Consideration

1. Classroom Facilities. The present divider-walls do not adequately shield the sound from the small groups.
2. An additional "aide" or teacher is necessary when small group discussions are taking place so that the large group will remain studiously working.

Conclusion

No all-encompassing conclusions can be stated concerning the efficacy of the program at this time. It is significant to point out, however, that it has been the attitude of the teachers and administration, and most important, the students of Lawndale High School, that the program should be continued.

Plans for the Future

For the school year 1963-64 it is planned to enlarge the multi-teacher classroom program to include all students enrolled in Senior Government and Junior United States History. These programs, which will involve five hundred students and four teachers, will operate as follows:

Anticipated Teacher Utilization Schedule

The four teachers involved in the program will have a weekly schedule as follows:

	Teacher "A"	Teacher "B"	Teacher "C"	Teacher "D"
M 1	(other subject)	free	Team, remedial	free
O 2	History-assist	(preparation)	Hist-Smll.Gp.	Hist-Smll.Gp.
N 3	Govt-Smll.Gp.	Govt-Smll.Gp.	Govt-Assist	(preparation)
D 4	Govt-Smll.Gp.	Govt-Smll.Gp.	Govt-Assist	(other subject)
A 5	Govt-Smll.Gp.	Govt-Smll.Gp.	Govt-Assist	(other subject)
Y 6	History Assist	(other sub.)	Hist-Smll.Gp.	Hist-Smll.Gp.
7	History Assist	(other sub.)	Hist-Smll.Gp.	Hist-Smll.Gp.
T 1	(other subject)	free	Team, remedial	free
U 2	(preparation)	(preparation)	History-Lecture	(preparation)
E 3	Govt-Lecture	(preparation)	(preparation)	(preparation)
S 4	Govt-Lecture	(preparation)	(preparation)	(other subject)
D 5	Govt-Lecture	(preparation)	(preparation)	(other subject)
A 6	free	(other subject)	History-Lecture	(preparation)
Y 7	free	(other subject)	History-Lecture	(preparation)
W 1	(other subject)	free	Team, remedial	free
E 2	History-Assist	(preparation)	Hist-Seminar	Hist-Seminar
D 3	Govt-Seminar	Govt-Seminar	Govt-Assist	(preparation)
N 4	Govt-Seminar	Govt-Seminar	Govt-Assist	(other subject)
E 5	Govt-Seminar	Govt-Seminar	Govt-Assist	(other subject)
S 6	History-Assist	(other subject)	Hist-Seminar	Hist-Seminar
D 7	History-Assist	(other subject)	Hist-Seminar	Hist-Seminar
A				
Y				
T 1	(other subject)	free	Team-remedial	free
H 2	(preparation)	(preparation)	(preparation)	History-Lecture
U 3	(preparation)	Govt-Lecture	(preparation)	(preparation)
R 4	(preparation)	Govt-Lecture	(preparation)	(other subject)
S 5	(preparation	Govt-Lecture	(preparation)	(other subject)
D 6	free	(other subject)	free	History-Lecture
A 7	free	(other subject)	free	History-Lecture
Y				
F 1	(other subject)	free	Team-remedial	free
R 2	(preparation)	(preparation)	Test/Debate/Prep	Test/Debate/Prep
I 3	Test/Debate/Prep	Test/Debate/Prep	(preparation)	(preparation)
D 4	Test/Debate/Prep	Test/Debate/Prep	(preparation)	(other subject)
A 5	Test/Debate/Prep	Test/Debate/Prep	(preparation)	(other subject)
Y 6	(preparation)	(other subject)	Test/Debate/Prep	Test/Debate/Prep
7	(preparation)	(other subject)	Test/Debate/Prep	Test/Debate/Prep

Explanation of Schedule

The meaning of the terms used on the schedule are as follows:

1) "Other Subject": Three of the four teachers involved in the program teach additional subjects. Teacher "A" teaches student government, Teacher "B" teaches two periods of World History, and Teacher "D" teaches two periods of German.

2) "History-Assist" ("Govt-Assist"): During these periods the teacher will be responsible for maintaining good study conditions in the large group while the two principal teachers of the subject are working with small groups in committee rooms.

3) "___-Smll.Gp": During this time the teachers will meet with all the students of their classes over a three week period. They will use this time to give students an opportunity to express their views and ideas in a less formal situation.

4) "Preparation": This non-class time will be used either in the preparation of lectures and materials for class use, the correction of papers, or for cooperative planning with the other team teacher. Government teachers will use second period and History teachers will use third period for cooperative planning.

5) "____-Lecture": This is intended to include not only formal lectures, but also other forms of large group instruction such as movies, etc. It might also be used for outside lecturers.

6) "Team-Remedial": During first period, teacher "C" will be available for any of the five-hundred students involved in the multi-teacher programs of United States History or Government to come to and gain additional assistance. This is particularly important for those students who have

been absent and have missed assignments or tests. This should serve to relieve the very time-consuming burden of giving make-up work to students in large groups while at the same time providing those students who are having difficulty with the classwork an opportunity for additional help.

7) "Free": Since this program encompasses a seven period day, certain "free" time is provided to compensate for the time beyond six periods as normally spent by teachers.

Advantages to the Projected Program

1. Counseling: This program will provide a convenient situation for a two year program of large group guidance. In addition, counselors may use the classroom facilities on Monday and Wednesday for individual counseling.
2. Classroom Facilities: Sound-proof committee rooms have been constructed, thus facilitating better utilization of the large group individual study periods.
3. Teacher Preparation: It is estimated that teachers will be freed an average of four additional periods per week for planning, grading of papers, etc.

Summary

It is, of course, impossible to estimate with any degree of accuracy the total benefits of the projected program. Nevertheless, it should be noted that this program will include some fine hundred students and four teachers. The important features of the program should be noted:

1. It will provide more time for teacher preparation.
2. It will provide more small group and individual instruction for the students.

3. It will provide a more varied and planned instructional program.

4. It will provide counseling for both the total class and the individual students.

5. It will in no way interfere with the schedule or course content of other departments of the school.

TEAM TEACHING IN TYPING

One of the most difficult obstacles to overcome in the evaluation of a team teaching situation is the multitude of variables that arise in a comparison of any teaching situation. Obviously, it is impossible ever to achieve a completely controlled situation, but, in the program described below, it was possible to hold constant, to a considerable degree, most aspects of a teaching situation.

In the 1963 summer school program of Centinela Valley Union High School District a team teaching class in Typing I of ninety students was taught by two teachers, one from Lennox High School and one from Hawthorne High School. Each of these teachers also taught an individual class in Typing I, one of thirty-one students and one of thirty-six students.* The team class was taught from 8:00 to 10:00, five days per week for the six week summer session, while the individual classes were taught from 10:00 to 12:00. The students were all novices in typing and both teachers were experienced in teaching the subject.

Facilities

The team class was conducted in an especially large classroom which was equipped with 105 typewriters. The individual classes were conducted in separate classrooms. The large classroom was equipped with a washroom/office/workroom. An amplifier and microphone and record player were provided for the team class. In general, the facilities were considered adequate.

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*It should be noted that the numbers of students are an average of the six weeks session. The beginning class size of the team class was 96 and the individual classes 33 and 38.

Evaluation by Students

Students in the team class were asked to complete a questionnaire indicating their reaction to the large group situation. The responses, recorded below, have been divided into three groups: (1) students who felt they were earning a grade of "A" or "B"; (2) students who felt they were earning a grade of "C"; and (3) students who were not planning to receive a grade (n/c) for credit in the subject. The following questions have been selected because of their applicability to the typing class:*

			A-B	C	n/c	Total
A.	Was individual attention given to you by teachers?	More	8	0	10	5
		Same	52	68	35	55
		Less	40	32	55	40
B.	Were you worried or disturbed at being placed under a team of teachers rather than one?**	More	8	3	0	4
		Same	60	48	65	56
		Less	32	49	35	40
C.	Did you feel you learned as much here as you would have done in normal classes?	More	20	29	15	24
		Same	68	71	70	70
		Less	12	0	15	6
D.	Did you feel the teachers gave an organized course of instruction?	More	24	35	30	33
		Same	68	69	60	61
		Less	8	6	10	6

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*Students were asked to react as to whether the team class was "more", "same", or "less" than they felt a normal class would have been with regard to each question. 77 students were questioned, 25 "A-B's"; 32 "C's"; and 20 "n/c's" (no credit).

**Note that "less" in "B" is actually a positive answer.

			A-B	C	n/c	Total
E.	Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class?)*	More	12	3	30	13
		Same	68	72	55	66
		Less	20	25	15	21
F.	Could you take classroom problems to a teacher for help?	More	12	19	20	15
		Same	76	64	55	69
		Less	12	19	25	16
G.	Did you feel that you made progress in learning to think for yourself?	More	52	50	35	46
		Same	40	44	55	47
		Less	8	6	10	7
H.	Was the grading policy clearly understood?	More	24	14	20	21
		Same	60	50	70	57
		Less	16	36	10	22
I.	Has your ability to work independently (without supervision) improved in team classes?	More	52	50	35	47
		Same	36	50	55	47
		Less	12	0	10	6
J.	Are you generally satisfied with your team class this year?	More	28	56	25	38
		Same	60	38	70	53
		Less	12	6	5	9

In addition to the above, the results were also tabulated and divided according to boys and girls. The tabulations of four significant questions have been selected. These, including the responses of 33 boys and 45 girls, are as follows:

			Boys	Girls
A.	Was individual attention given to you by teachers?	More	9	2
		Same	46	64
		Less	45	34
B.	Were you worried or distured at being placed under a team of teachers, rather than one?	More	4	2
		Same	64	45
		Less	32	53
C.	Did you feel you learned as much here as you would have done in normal classes?	More	30	13
		Same	55	85
		Less	15	2
D.	Are you generally satisfied with your team class this year?	More	24	47
		Same	64	47
		Less	12	6

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*Note that "less" in E" is actually a positive answer.

In examining these results one should be aware that a large number of students indicated that they were taking typing for their personal use and that they would have preferred to have received no grade and to have received no credit. This was especially true of the boys.

Certain comments of the student questionnaire may be worthy of special note. In general, students felt they learned as much in the team class as they would have otherwise. They did feel the loss of individual attention, but this seemed to be counterbalanced by their feeling that they were developing a greater ability to work independently. A substantial number indicated a preference for this program, while only a small number indicated any real dissatisfaction.

Evaluation of learning

The significant learning that takes place in a Typing I class can be determined principally by two factors:

1. Words per minute
2. Errors

The following chart compares these two learning factors between the team class and the individual control groups:

	Words Per Minute	Errors
Team Class	30.4	3.1
Control Classes	29.1	3.3

These are the final average scores of the comparative groups. From these scores one can gain an insight into the relative learning of the two situations.

Teacher Evaluation

The teachers involved in the program listed several advantages to the team situation:

Advantages:

1. More free time for preparation and correction of papers
2. Two teachers can "serve as checks on one another"
3. Two teachers can pool talents
4. While one teacher is conducting class, the other can move from student to student and help each individual.
5. Two teachers provide more source material.

As disadvantages they listed the following:

Disadvantages:

1. The increased noise feature makes it more difficult to control the class (although they pointed out that noise is always present in a typing class).
2. Increased number of students makes it easy for students to not hear directions.

Conclusions and Recommendations

As conclusions and recommendations the teachers suggested the following:

1. Program should be continued "all year long."
2. Class is satisfactory with two teachers and 100 students, but it would be preferable to have three teachers (or two teachers and an aide) and 150 students.
3. A microphone, record player, high demonstration stand, and washbasin are absolutely necessary facilities for such a program.

In general one may list these advantages:

1. More time for teacher preparation.
2. A general relaxation of the extreme teacher tension caused by constant presence in a high noise level classroom.

CRITERIA FOR FUTURE EVALUATION AND A PROJECTION FOR 1963--1964

CRITERIA FOR FUTURE EVALUATION

In projecting plans for more closely controlled evaluative studies for 1963-64, Centinela Valley's Committee on Staff Utilization has established several criteria:

1. Select instruments for pre-and post-testing which have alternate forms, adequately established norms, and which teachers agree on as acceptable measures of desired course content.
2. Have similar basic test data available for all students in control and experimental groups. A defect of the current year's evaluation was that the CTMM had been administered at a variety of times and places. Many students were eliminated because no scores were available. For these reasons, group testing for specific purposes of the studies will be an important aspect of the '63-64 evaluative design.
3. Eliminate the teacher variable wherever possible.
4. Stabilize classes early and attempt to maintain a comparable student-teacher ratio in experimental and control groups throughout the year.
5. Provide for testing of new students who appear reasonably early in the year.
6. Base studies on group comparisons rather than matched pairs. Where relatively small groups are involved, matching limits the sampling.
7. Employ an attitudinal test to develop a semantic differential.

8. Designate one person to coordinate testing. In Centinela Valley District a research assistant from the University of Southern California and one person at each high school will implement the studies. In addition, Centinela Valley will again have the services of Dr. William Georgiades of the University of Southern California in a consultant capacity.

9. Bring together participating personnel, including teachers of both experimental control groups, for an orientation meeting early in the year and for progress reports quarterly. Such meetings should serve to solve problems as they arise, give a sense of involvement to the participants, and lend status to the studies and to the team efforts.

A PROJECTION OF STAFF UTILIZATION PLANS AND EVALUATION FOR 1963-64

To evaluate the new designs in staff utilization scheduled in Centinela Valley Union High School District for 1963-64 and to assess more fully those already in operation, the district Committee on Staff Utilization has selected eight patterns for in-depth studies. A brief report of the projected designs and the test instruments to be used is as follows:

At Hawthorne High School, three programs will be studied:

1. A four-period block, ninety grade nine students with three teachers and an aide, for English, Mathematics II, General Science, and study hall. All students in the team group and in control groups (regular classes) will have Differential Aptitude Test verbal and numerical scores established. Pre- and post-tests will be for English, Educational Testing Service's Cooperative English Test, 1960, alternate forms; for Math II, ETS's New Cooperative Test in Arithmetic, alternate forms; and for General Science, ETS's Cooperative General Science Test, Grade 9, alternate forms.
2. Interspersed electives for sixty grade eleven students in one class with two English teachers. Students are to meet three times weekly in English class, twice weekly in elective courses in English or in other subjects by special arrangement with teachers of elective subjects. Tests used will be ETS's School and College Ability Tests and alternate forms of the 1960 Cooperative English Test.

3. Algebra I, ninety students with three teachers in one classroom. Tests will be the Snader General Mathematics Test, Lee-Clark Arithmetic Fundamentals Survey Test, (California Test Bureau) and ETS's New Cooperative Test in Algebra I, alternate forms. Each teacher will have a regular Algebra I class, to be similarly tested, to provide a control group.

At Leuzinger High School, two teams will participate, with regular classes of comparable ability serving as controls:

1. Ninth grade English and General Science scheduled back-to-back with sixty students and two teachers. The verbal section of the Differential Aptitude Test will be given, 1960 Cooperative English alternate forms will measure English achievement, and ETS's Cooperative General Science Test, Grade 9, alternate forms, will measure science achievement.
2. Eleventh grade English and Chemistry scheduled back-to-back, sixty students with two teachers. ETS's School and College Ability Tests, Coop English, and the American Chemical Society-National Science Teachers Association's Cooperative Examination: High School Chemistry, alternate forms, will be administered.

At Lawndale High School, three sections of U. S. History will operate, each with seventy students under two teachers plus part-time services of a third teacher. Differential Aptitude Test verbal scores and scores on two forms of ETS's Cooperative American History Test will be employed. Since the Lawndale team program involves all students enrolled in U. S. History, students from another high school in the district will serve as control group and will be similarly tested. A similar program has been in operation for the past two years with American Government and will be continued but without formal evaluation because of the difficulty of finding standardized test instruments to cover the local government and comparative government aspects of the year-long course.

At Lennox High School, two teams are projected:

1. Eighty-five Geometry students with two teachers and an aide. Evaluation will be based on CTMM verbals and on pre- and post-testing with the Seattle Plane Geometry Test. A group of thirty Geometry students under one of the team teachers will serve as control.
2. Seventy Typing I students with one teacher and an aide in each of two sections, plus one similarly scheduled group in second year Typing. Control groups will be students in regular classes at another high school, since all of Lennox's typing students will be included in the large group program. Basis for comparison will be the number of words per minute achieved at the end of the school year.

In addition to the plans described above, other staff utilization projects will be in operation in the district, but without the in-depth evaluative design. These include:

1. World History, two teachers in a class of sixty.
2. Senior English, two teachers in a class of sixty.
3. Reading Laboratory for ninth and eleventh graders, employing a teacher specialist teamed with the regular teacher for an eight weeks unit.
4. Writing Laboratory of the same design, for tenth and twelfth grade classes.
5. Senior English enrichment lectures once a week for combined classes, with contributions from a number of teachers.
6. Occasional large group lectures on special topics in various subject areas (Social Studies, Mathematics, etc.)

PRACTICAL CONSIDERATIONS
FOR
ASSURING SUCCESSFUL TEAM OPERATIONS

PRACTICAL CONSIDERATIONS FOR ASSURING SUCCESSFUL TEAM OPERATIONS

An analysis of staff utilization designs in Centinela Valley Union High School District suggests a number of considerations which influence the success of such transitional programs. It should be pointed out that the district consists of four schools, grades 9 through 12, with a student population of approximately eight thousand. Some of the ideas presented are geared to this specific situation; others might well apply to team teaching endeavors in districts of any size or organizational pattern. Suggestions fall generally into three categories: role of the administrator, role of the teacher, and role of the student.

Administrative role

1. In larger districts where several administrators are functioning at the district level, one administrator might well be placed in overall charge of staff utilization projects (a) to work directly with administrators at each school, (b) to be responsible for all necessary advance planning, and, in general, supporting and encouraging the program, and (c) to serve as the direct line of administrative communication with all team teaching endeavors.
2. The administrator who makes up the master schedule at each school is a key figure in the supervision, encouragement, and implementation of the team programs.
3. General administrative support for team programs should be given, to

include some recognition of the aims and methods of such programs. Even the strongest of teachers when embarked upon a program as transformational as team teaching needs widespread, observable administrative support.

4. Teachers should be encouraged to initiate new designs which they feel will improve instruction in their subject areas. The team programs in Centinela Valley District were proposed by teachers and implemented through administrative support.
5. Key, experienced team teaching personnel should be retained within new and/or expanded team programs. New teachers and additional team personnel profit from what has been learned in earlier team experiences.
6. Administrators should recognize that certain teachers-many times experienced, competent instructors-do not belong in a team-teaching situation. The give-and-take flexibility required for good team relations is not a characteristic of all teachers, and administrators should not place pressure upon reluctant teachers to join teams; the result of such pressure would likely prove unfortunate for all concerned.
7. A general administrative briefing to all teachers involved in staff utilization projects at the start of the year can make clear the general purposes and evaluation plans. Additional meetings should be held at the end of each semester and particularly at the close of the school year so that an overall picture may be gained. If evaluative plans include experimental and control groups, teachers of control classes should be included in the orientation.
8. Suitable classroom facilities are essential, including (a) good sound amplifying systems, (b) some room separations for individual counseling, (c) podiums or speaker stands, (d) adequate seating arrangements,

(e) sufficient blackboard space. Further, some schools have few or no classrooms large enough for team endeavors, and some thought must be given to room enlargement or building additions.

9. The physical equipment necessary to operate a team teaching class varies somewhat from conventional classes in its need for sound equipment and other audio-visual devices of various natures. Therefore some type of special budgetary procedures, channeled through the administrator at each school charged with the team teaching responsibility, should be established; further, a decision as to what equipment will be available should be made well before the opening of school so that teachers know what they will have to work with.
10. Planning of next year's teams should begin early and should be brought to some stage of completion before student and class scheduling begins. Some free time must be furnished in early spring to teachers planning time for the following year. Making plans after the master schedules are organized imposes severe hardships on all involved.
11. Some type of working space for team teachers outside the regular classroom is needed. The teacher's lounge or lunchroom is useless for most working purposes.
12. Team teachers should have their consultation hours and/or lunch time together. Planning becomes difficult when there is no common preparation period.
13. Initiatory training of some nature for newly formed teams should be provided, either through use of veteran personnel or outside sources, as well as a continuous type of supervision and encouragement throughout the year. Sometimes there is a lack of communication between teachers

and administrators regarding this supervision aspect; administrators may be reluctant to observe team programs, believing that the team teachers wish no interference, with the result that teachers, having worked very hard at research and lecture preparation, feel that their efforts are unknown and ignored by the administration. Such lack of communication should be remedied.

14. In larger districts where a curriculum consultant, an expert in team management, is available, he should work with the administrator designated as leader of all teams. Using the consultant to work with the many teachers involved is too sporadic and is generally wasteful of his advice. The administrator, on the other hand, should be generally conversant with the various team teachers and be able to give them assistance with the help of the consultant.
15. Early and definite plans concerning aide or intern programs enable teachers to plan their programs cognizant of this factor. No pre-structuring is possible when plans for aides are vague, and last minute additions or deletions do not give positive help to the program.
16. The intern or aide program may be made financially defensible through increases in class size to compensate for the added cost of the aide on a definite cost analysis basis. The cost of an aide is relatively small, and a small increase in class size will pay for his services without penalizing other programs.
17. It should be recognized that a team teacher, temporarily out of class while his fellow team members conduct the class, has added responsibilities--lecture preparation, grading, etc.--which do not make this time out of class "free" time.

18. Team classes should be scheduled with numbers at least those of regular classes, preferably larger on a ratio basis, so that the normal attrition rate will not leave these classes with a teacher-student ratio smaller than that of regular classes. Since many teams are, after once being scheduled, relatively inflexible, beginning numbers should be large enough to account for normal attrition.
19. A certain amount of clerical help for typing and duplicating work should be available. The work given to a classified person must be channeled through an administrator who had previously told this classified employee that her duties will involve this work. Many times clerical help, when done on a piecemeal basis, occasions some resentment from the classified person who feels this work is "extra".
20. Substitutes, when team members are absent from school, should be assigned exactly as in normal class situations.
21. Teachers need an opportunity to visit team operations within the school and to visit other schools in which teams are operating. Shared experience often leads to new ideas.
22. All school personnel should understand that team teaching is to be considered not as an experimental program, but as an integral part of the school curriculum, a part which is neither hypothetical nor ephemeral and which has a certain degree of permanence. The "experimental" label implies a transitory nature which makes success somewhat problematical.
23. Evaluation studies are essential to assess the strengths and weaknesses of new designs in staff utilization. Early evidence from the evaluations done in this report seems to have a definite direction: *team groups show academic progress as good as and generally better than control*

groups. This indication has implications of the first magnitude, and further, tighter evaluations should be made to see if this trend stands up under more rigid analysis. Administrators must insist upon stringent, effective evaluation.

24. Team teaching cannot be considered as an economy method of teaching. The total costs of these programs, with consideration of pre-planning, providing special facilities and equipment, furnishing aides, etc., will in all likelihood be initially higher than those of conventional programs. In time these early costs will justify themselves, but little actual saving can ever be made without harming the students.

Participating Teachers' Roles

1. Teachers should recognize that planning for change is a part of their professional responsibility. Old ways are not necessarily sacrosanct if new ways can be found that are better. While change for its own sake has nothing to commend it, the search for more effective methods is part and parcel of American education.
2. Teachers must be willing to do extensive planning in preparation for new staff utilization efforts. Determination of goals, allocation of time for various curriculum elements, allocation of teacher responsibility for various curriculum elements, structuring of class activities, and mutual agreement on classroom procedures, testing, and grading are all important aspects of pre-planning. Preparation for individual presentations is more demanding, also; but good presentations result in more effective use of class time.
3. Throughout the pages of this study, a certain degree of emphasis on teacher preparation has been stressed and reiterated. It might be

pointed out, however, that the ample academic background which teachers possess makes lengthy, rigorous class preparation a rare occurrence; more often the preparation is quickly done with reference to a textbook or two and a quick perusal of material. An excellent thirty minute lecture normally does not require several hours of preparation; rather it involves a short jarring of the memory, a brief stirring of the academic well. When a team situation is planned not for one but for two or three years, even this initial preparation is minimized with the assistance of notes and tapes.

4. The major gains in teacher time and teacher efficiency will in all probability be attained in the second year of team work. Careful compilation of materials prepared during the first year will be profitable in the following year.
5. Teachers should agree on individual teacher autonomy within the team situation. Areas of individual responsibility must be clearly delineated. Here is an opportunity for teachers to exploit their own special areas of strength and interest. In language arts, for example, one teacher may wish to specialize in creative writing, or in reading skills, or in certain phases of literature, while his teammates may take the lead in other aspects of the program.
6. Cooperation rather than competition with fellow team members is an important concept. Colleagues and students alike are quick to recognize competitiveness, and some students are prone to capitalizing upon it. Sharing of resources, on the other hand, enhances the learning situation.
7. Each team class will develop its own special "climate", just as conventional classes do. If this climate is a healthy, productive one,

the normal problems of maintaining discipline and getting student attention are much diminished under a team situation.

8. Teachers should realize that the class structure changes--conventional to teamwork--are not nearly so alarming to the students as to the teachers involved. The students' primary reaction is one of pleasure because of the anticipated variety, whereas the demands upon the teachers are much more profound.

9. Teachers should learn to combine effectively the major techniques of team-teaching-large group instruction, small group instruction, and independent study. Large group, for example, involves rather formal, relatively brief presentations with little interplay between teacher and student. Small group involves not a presentation of material by the teacher but the exploration, through discussion, of the students' understandings and misunderstandings in a given area; it is an exercise in group dynamics in which the teacher leads but does not dominate. Independent study goes beyond homework-type exercises and requires the student to develop initiative and resourcefulness in finding and applying information.

10. A common misconception is that team teaching is essentially large group teaching. Rather it is a combination of the three elements enumerated in 8, plus supervised study with individual assistance and any other of the time-tested techniques of good teaching.

11. Teachers should learn to use the aide, if he is of professional background, in an advantageous manner. Many aides have distinct skills in lecturing, in business backgrounds, etc., which can be of definite assistance to the class curriculum. Too often the aide's function is

simply to control the class while team teachers are otherwise occupied. This function, while undoubtedly useful, should not dominate aide time, and his talents and abilities may be better used in making part of the presentations, giving individual or small group assistance to students, preparing resource materials for the teacher, and so forth.

12. Daily lesson preparation is a requisite for teachers in flexible scheduling. Adherence to long range schedules, as well as the daily class schedule, forces the instructor to modify and streamline his course. The impromptu discourse, the tangential address, the "fill-in" ad lib--these opportunities come less frequently in team teaching.
13. Of primary importance to the teacher in the teaching team is the consideration that the unique structure of the team gives him added opportunity to teach creatively and professionally. In contrast with the conventional teacher, whose normal five-day-a-week, five-or six-period-day often forces him to forego his potential excellence under the deluge of papers and duties, the teacher in a flexible program does receive the opportunity to teach carefully and well; this most satisfying experience makes the initiatory planning, structuring, and preparation worth-while.

Students' Roles and Beliefs

1. Team teaching capitalizes on the potential which students possess in that it offers the large, self-disciplined learning group; the small group in which ideas and understandings can be explored; independent work geared to individual interests and creativity; the avoidance of repetitive material, etc.
2. Team teaching at the high school level provides a transitional stage between the individualized student treatment of elementary schools and the

formal impartiality of college training.

3. The demands of responsibility are considerably greater in a team teaching program, but teachers are giving recognition to this student capacity for responsibility.
4. These classes, in contrast to many conventional situations, have been the object of much pre-planning; the student group has been selected with this planning in mind, and curriculum, too, has been geared specifically to the group.
5. The large group lecture situation has inherent advantages which in time accrue to students: carefully prepared lectures are followed up with small group discussions, and individual teacher counseling.
6. Team programs normally must present a balanced program in subject matter, inasmuch as participating teachers plan the total yearly curriculum together; further the participating teachers are working in their own interest and talent areas, thereby presuming some degree of competence within the various areas.
7. A more objective judgment of student talents and abilities is possible in team teaching, since teacher partiality tends to be minimized in large group teaching. The instruments which test achievement are perhaps more carefully established in team-taught classes.
8. Students should be cognizant of the fact that the class is in actuality one-class, not a combination of several classes banded together under different instructors. While teachers have separate and distinct responsibilities, a student does not have "a teacher", but a combination of teachers, each specifically charged with his own responsibilities; and these teachers have their own complete areas of autonomy.

9. While the team teaching situation imposes certain standards of conduct on students which may differ from other situations, yet the team will be characterized by its own particular climate, one which each pupil can adjust to with little difficulty, for teachers will assist in delineating these responsibilities incumbent on the student.

10. Students should appreciate the value of a carefully-drawn up, long range assignment schedule, one which will help facilitate make-up work for forced absences in addition to being helpful in planning their regular daily schedules.

11. Students should understand that team programs rarely have discipline problems. The class atmosphere of teams is normally a business-like one, characterized by attentiveness and good learning climate. They will not be wasting their time while recalcitrant students are disciplined.

12. This type of class has been the object of a great deal of study and evaluation; there is nothing experimental about teaching teams, and there is a general movement throughout the country in this type of teaching. The evidence available concerning learning efficiency points out that students in team groups learn as much as those in normal classes.

APPENDIX A

FOUR PERIOD BLOCK ENGLISH MATCHED PAIRS

Team Class	CTMM Vb	Pre-test	Post-test	Control Class	CTMM Vb	Pre-test	Post-test
EB1	133	158	161	CB1	133	161	165
EG2	125	154	156	CG2	126	154	157
EG3	124	156	157	CG3	122	158	162
EB4	123	157	162	CB4	124	153	149
EB5	123	155	161	CB5	121	148	149
EG6	121	149	150	CG6	121	155	159
EG7	119	156	164	CG7	117	155	155
EB8	118	145	152	CB8	118	142	148
EG9	117	150	157	CG9	117	144	146
EG10	116	161	169	CG10	117	160	166
EG11	115	160	160	CG11	116	161	163
EG12	115	151	156	CG12	115	150	151
EG13	115	145	153	CG13	115	147	153
EB14	114	154	152	CB14	116	157	152
EB15	114	148	151	CB15	113	142	144
EB16	113	151	153	CB16	114	149	151
EG17	113	156	155	CG17	113	156	162
EB18	113	151	158	CB18	113	143	146
EG19	113	150	154	CG19	111	146	154
EB20	112	146	152	CB20	112	146	151
EG21	110	153	152	CG21	111	155	159
EG22	110	152	155	CG22	107	149	146
EB23	108	144	151	CB23	109	146	149
EG24	108	151	153	CG24	107	147	154
EB25	107	139	144	CB25	109	139	150
EB26	107	145	151	CB26	108	146	148
EG27	107	149	148	CG27	107	145	146
EB28	106	155	155	CB28	105	151	152
EG29	106	144	147	CG29	105	149	147
EB30	106	143	146	CB30	103	143	148
EB31	101	142	147	CB31	103	143	152
EG32	99	149	151	CG32	101	151	158
EB33	99	140	152	CB33	101	142	144
EB34	98	152	158	CB34	98	141	141
EG35	95	147	143	CG35	98	142	144
EG36	95	141	145	CG36	97	144	148
EB37	92	138	133	CB37	92	139	143
EG38	90	133	143	CG38	92	144	145
	Ex = 4200	5676	5807		Ex = 4207	5643	5757
	M = 110.5	149.3	152.8		M = 110.7	148.5	151.5

Gain: 3.5

Gain: 3.0

B = boy; G = girl: E = Team (Experimental) students; C = Control students

APPENDIX

APPENDIX B

FOUR PERIOD BLOCK SUMMARY
English, Geography, Algebra, Study Hall

STUDENT QUESTIONNAIRE

You people have been enrolled in classes using teams of teachers during the past year. As you probably know, more and more team teaching is being done within this school district. It may be that this type of teaching is more effective than the single teacher type; it may be, on the other hand, that this type of team teaching is less effective. Perhaps it is no more effective than the normal way.

At any event, we need your help to assist us in planning for next year's teacher teams. Your comments and suggestions will help us to get rid of past errors and to plan a better program.

Please answer all questions. You do not need to sign your name to the questionnaire. Do not, however, put the names of any teachers on your sheet, for this questionnaire is not intended to compare one teacher with another. Your thoughtful answers will be appreciated.

The questions below should be answered with a check mark (✓). Remember as you answer them, that your class (a team teacher class) is being compared with a normal one teacher class. Therefore, you are requested to answer with "more," "same," or "less," rather than yes or no.

(N=77)	more	same	less	no ans.
1. Was individual attention given to you by teachers?	26%	48%	26%	0
2. Were the teachers normally prepared for lectures and discussions?	56%	39%	4%	1%
3. Were you worried or disturbed at being placed under a team of teachers, rather than one?	14%	42%	44%	0
4. Did you feel you learned as much here as you would have done in normal classes?	58%	23%	17%	1%
5. Were you challenged to work hard?	61%	26%	13%	0

		more	same	less	no ans.
6.	Was the atmosphere of the team class a business-like atmosphere?	22%	49%	26%	2%
7.	Could you hear the lectures and see the blackboard in the larger room?	23%	61%	14%	1%
8.	Did you feel you showed progress by improving your study habits (as compared with your progress last year)?	43%	34%	22%	1%
9.	Did you feel at ease when a teacher aide directed the class?	31%	47%	19%	2%
10.	Did you feel the teachers gave an organized course of instruction?	35%	53%	10%	1%
11.	Were assignments generally given well in advance?	32%	52%	13%	2%
12.	Were these assignments clear?	36%	51%	13%	0
13.	How effective was the small group instruction (in writing and discussion)?	86%	6%	4%	4%
14.	Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class)?	28%	56%	16%	0
15.	Did you have the chance to contribute ideas to the class?	30%	53%	17%	0
16.	Could you take classroom problems to a teacher for help?	40%	44%	16%	0
17.	Did the normal monotony of every day work become less under this team situation?	17%	17%	66%	0
18.	Did you have the chance to be creative--that is, write, study, or work on your own ideas?	44%	39%	17%	0
19.	Could you take personal (not school work) problems to the teacher?	21%	42%	31%	6%
20.	Is the large group lecture generally interesting?	51%	29%	21%	0
21.	Did you feel that you made progress in learning to think for yourself?	56%	38%	6%	0

		more	same	less	no ans.
22.	Did you make many new friends among other pupils in team classes?	73%	22%	5%	0
23.	Was the grading policy clearly understood?	30%	51%	19%	0
24.	Has your ability to work independently (without supervision) improved in team classes?	49%	34%	14%	2%
25.	Are you generally satisfied with your team class this year?	51%	30%	18%	1%
26.	Do you feel this type of class prepares you for college work?	88%	7%	4%	0

The remaining part of the questionnaire requires written answers by you. You may, if you wish, repeat some part of an earlier question.

I. List what you feel are the strongest and best features about the team class:

a)
b)
c)

II. List what you feel are the weakest features about the team class:

a)
b)
c)

III. Are there any specific areas of improvement within the curriculum (for example, book reports, testing, grading, content areas, etc.) which you would like to see changes?

IV. Any added further comments, pro or con:

APPENDIX C

English IV--Two Teachers--One Hour

STUDENT QUESTIONNAIRE

You people have been enrolled in classes using teams of teachers during the past year. As you probably know, more and more team teaching is being done within this school district. It may be that this type of teaching is more effective than the single teacher type; it may be, on the other hand, that this type of team teaching is less effective. Perhaps it is no more effective than the normal way.

At any event, we need your help to assist us in planning for next year's teacher teams. Your comments and suggestions will hlep us to get rid of past errors and to plan a better program.

Please answer all questions. You do not need to sign your name to the questionnaire. Do not, however, put the names of any teachers on your sheet, for this questionnaire is not intended to compare one teacher with another. Your thoughtful answers will be appreciated.

The questions below should be answered with a check mark (✓). Remember, as you answer them, that your class (a team teacher class) is being compared with a normal one teacher class. Therefore, you are requested to answer with "more," "same," or "less," rather than yes or no.

(N=45)	more	same	less	no ans.
1. Was individual attention given to you by teachers?	11%	42%	44%	2%
2. Were the teachers normally prepared for lectures and discussions?	64%	31%	4%	0
3. Were you worried or disturbed at being placed under a team of teachers, rather than one?	31%	33%	11%	24%
4. Did you feel you learned as much here as you would have done in normal classes?	40%	44%	11%	4%
5. Were you challenged to work hard?	42%	40%	7%	11%
6. Was the atmosphere of the team class a business-like atmosphere?	20%	42%	22%	16%

		more	same	less	100 no ans.
7.	Could you hear the lectures and see the blackboard in the larger room?	2%	67%	22%	9%
8.	Did you feel you showed progress by improving your study habits (as compared with your progress last year)?	7%	60%	16%	18%
9.	Did you feel at ease when a teacher aide directed the class?	4%	47%	11%	38%
10.	Did you feel the teachers gave an organized course of instruction?	44%	36%	11%	9%
11.	Were assignments generally given well in advance?	24%	60%	4%	11%
12.	Were these assignments clear?	27%	51%	11%	11%
13.	How effective was the small group instruction (in writing and discussion)?	76%	11%	7%	7%
14.	Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class)?	20%	62%	18%	0
15.	Did you have the chance to contribute ideas to the class?	16%	40%	38%	7%
16.	Could you take classroom problems to a teacher for help?	4%	51%	31%	13%
17.	Did the normal monotony of every day work become less under this team situation?	22%	40%	18%	20%
18.	Did you have the chance to be creative--that is, write, study, or work on your own ideas?	31%	40%	22%	7%
19.	Could you take personal (not school work) problems to the teacher?	7%	36%	31%	27%
20.	Is the large group lecture generally interesting?	40%	33%	0	27%
21.	Did you feel that you made progress in learning to think for yourself?	38%	42%	11%	9%
22.	Did you make many new friends among other pupils in team classes?	27%	44%	16%	13%

		more	same	less	no ans.
23.	Was the grading policy clearly understood?	4%	38%	38%	20%
24.	Has your ability to work independently (without supervision) improved in team classes?	16%	40%	13%	31%
25.	Are you generally satisfied with your team class this year?	16%	44%	7%	33%
26.	Do you feel this type of class prepares you for college work?	47%	20%	7%	27%

The remaining part of the questionnaire requires written answers by you. You may, if you wish, repeat some part of an earlier question.

I. List what you feel are the strongest and best features about the team class:

a)
b)
c)

II. List what you feel are the weakest features about the team class?

a)
b)
c)

III. Are there any specific areas of improvement within the curriculum (for example, book reports, testing, grading, content areas, etc.) which you would like to see changes?

IV. Any added further comments, pro or con:

APPENDIX D

Senior English--Two Teachers--One Hour

STUDENT QUESTIONNAIRE

You people have been enrolled in classes using teams of teachers during the past year. As you probably know, more and more team teaching is being done within this school district. It may be that this type of teaching is more effective than the single teacher type; it may be, on the other hand, that this type of team teaching is less effective. Perhaps it is no more effective than the normal way.

At any event, we need your help to assist us in planning for next year's teacher teams. Your comments and suggestions will help us to get rid of past errors and to plan a better program.

Please answer all questions. You do not need to sign your name to the questionnaire. Do not, however, put the names of any teachers on your sheet, for this questionnaire is not intended to compare one teacher with another. Your thoughtful answers will be appreciated.

The questions below should be answered with a check mark (✓). Remember, as you answer them, that your class (a team teacher class) is being compared with a normal one teacher class. Therefore, you are requested to answer with "more," "same," or "less," rather than yes or no.

(N=40)	more	same	less	no ans.
1. Was individual attention given to you by teachers?	38%	45%	15%	2%
2. Were the teachers normally prepared for lectures and discussions?	28%	62%	10%	0
3. Were you worried or disturbed at being placed under a team of teachers, rather than one?	18%	42%	38%	2%
4. Did you feel you learned as much here as you would have done in normal classes?	32%	48%	20%	0
5. Were you challenged to work hard?	13%	42%	32%	13%
6. Was the atmosphere of the team class a business-like atmosphere?	5%	52%	42%	0

		more	same	less	no ans.
7.	Could you hear the lectures and see the blackboard in the larger room?	18%	78%	5%	0
8.	Did you feel you showed progress by improving your study habits (as compared with your progress last year?)	25%	50%	25%	0
9.	Did you feel at ease when a teacher aide directed the class?	No teacher aide involved			
10.	Did you feel the teachers gave an organized course of instruction?	35%	35%	30%	0
11.	Were assignments generally given well in advance?	50%	42%	8%	0
12.	Were these assignments clear?	25%	68%	8%	0
13.	How effective was the small group instruction (in writing and discussion)?				
14.	Did any teacher have problems in student disclipline when he took the class alone (as compared to a normal, smaller class)?	0	58%	42%	0
15.	Did you have the chance to contribute ideas to the class?	32%	60%	8%	0
16.	Could you take classroom problems to a teacher for help?	20%	60%	20%	0
17.	Did the normal monotony of every day work become less under this team situation?	32%	35%	22%	10%
18.	Did you have the chance to be creative--that is write, study, or work on your own ideas?	85%	10%	5%	0
19.	Could you take personal (not school work) problems to the teacher?	10%	42%	42%	5%
20.	Is the large group lecture generally interesting?	58%	38%	5%	0
21.	Did you feel that you made progress in learning to think for yourself?	65%	25%	10%	0
22.	Did you make many new friends among other pupils in team classes?	42%	48%	10%	0

		more	same	less	no ans.
23.	Was the grading policy clearly understood?	8%	48%	42%	2%
24.	Has your ability to work independently (without supervision) improved in team classes?	42%	45%	8%	5%
25.	Are you generally satisfied with your team class this year?	65%	28%	8%	0
26.	Do you feel this type of class prepares you for college work?	45%	35%	20%	0

The remaining part of the questionnaire requires written answers by you. You may, if you wish, repeat some part of an earlier question.

I. List what you feel are the strongest and best features about the team class:

a)
b)
c)

II. List what you feel are the weakest features about the team class:

a)
b)
c)

III. Are there any specific areas of improvement within the curriculum (for example, book reports, testing, grading, content areas, etc.) which you would like to see changes?

IV. Any added further comments, pro or con:

APPENDIX E

Junior English--Interspersed Elective--Two Teachers--One Hour

STUDENT QUESTIONNAIRE

You people have been enrolled in classes using teams of teachers during the past year. As you probably know, more and more team teaching is being done within this school district. It may be that this type of teaching is more effective than the single teacher type; it may be, on the other hand, that this type of teaching is less effective. Perhaps it is no more effective than the normal way.

At any event, we need your help to assist us in planning for next year's teacher teams. Your comments and suggestions will help us to get rid of past errors and to plan a better program.

Please answer all questions. You do not need to sign your name to the questionnaire. Do not, however, put the names of any teachers on your sheet, for this questionnaire is not intended to compare one teacher with another. Your thoughtful answers will be appreciated.

The questions below should be answered with a check mark (✓). Remember, as you answer them, that your class (a team teacher class) is being compared with a normal one teacher class. Therefore, you are requested to answer with "more," "same," or "less," rather than yes or no.

(N=52)	more	same	less	no ans.
1. Was individual attention given to you by teachers?	10%	48%	38%	4%
2. Were the teachers normally prepared for lectures and discussions?	58%	31%	10%	2%
3. Were you worried or disturbed at being placed under a team of teachers, rather than one?	21%	13%	60%	6%
4. Did you feel you learned as much here as you would have done in normal classes?	46%	35%	17%	2%
5. Were you challenged to work hard?	60%	27%	12%	2%
6. Was the atmosphere of the team class a business-like atmosphere?	17%	52%	31%	0

		more	same	less	no ans.
7.	Could you hear the lectures and see the blackboard in the larger room?	10%	69%	21%	0
8.	Did you feel you showed progress by improving your study habits (as compared with your progress last year)?	38%	40%	21%	0
9.	Did you feel at ease when a teacher aide directed the class?	23%	50%	15%	12%
10.	Did you feel the teachers gave an organized course of instruction?	42%	29%	25%	4%
11.	Were assignments generally given well in advance?	62%	25%	10%	4%
12.	Were these assignments clear?	23%	56%	12%	10%
13.	How effective was the small group instruction(in writing and discussion)?	40%	29%	19%	12%
14.	Did any teacher have problmms in student discipline when he took the class alone (as compared to a normal, smaller class)?	6%	38%	48%	8%
15.	Did you have the chance to contribute ideas to the class?	10%	58%	33%	0
16.	Could you take classroom problems to a teacher for help?	15%	63%	21%	0
17.	Did the normal monotony of every day work become less under this team situation?	35%	31%	35%	0
18.	Did you have the chance to be creative-that is, write, study, or work on your own ideas?	63%	25%	13%	0
19.	Could you take personal (not school work) problems to the teacher?	17%	48%	29%	6%
20.	Is the large group lecture generally interesting?	58%	35%	8%	0
21.	Did you feel that you made progress in learning to think for yourself?	54%	42%	4%	0
22.	Did you make many new friends among other pupils in team classes?	44%	44%	10%	2%

		more	same	less	no ans.
23.	Was the grading policy clearly understood?	10%	58%	27%	6%
24.	Has your ability to work independently (without supervision improved in team classes?	67%	29%	4%	0
25.	Are you generally satisfied with your team class this year?	67%	29%	4%	0
26.	Do you feel this type of class prepares you for college work?	88%	8%	2%	2%

The remaining part of the questionnaire requires written answers by you. You may, if you wish, repeat some part of an earlier question.

I. List what you feel are the strongest and best features about the team class:

a)
b)
c)

II. List what you feel are the weakest features about the team class:

a)
b)
c)

III. Are there any specific areas of improvement within the curriculum (for example, book reports, testing, grading, content areas, etc.) which you would like to see changes?

IV. Any added further comments, pro or con:

APPENDIX F

Two Period Block--Junior English--& U. S. History

STUDENT QUESTIONNAIRE

You people have been enrolled in classes using teams of teachers during the past year. As you probably know, more and more team teaching is being done within this school district. It may be that this type of teaching is more effective than the single teacher type; it may be, on the other hand, that this type of team teaching is less effective. Perhaps it is no more effective than the normal way.

At any event, we need your help to assist us in planning for next year's teacher teams. Your comments and suggestions will help us to get rid of past errors and to plan a better program.

Please answer all questions. You do not need to sign your name to the questionnaire. Do not, however, put the names of any teachers on your sheet, for this questionnaire is not intended to compare one teacher with another. Your thoughtful answers will be appreciated.

The questions below should be answered with a check mark (✓). Remember, as you answer them, that your class (a team teacher class) is being compared with a normal one teacher class. Therefore, you are requested to answer with "more," "same," or "less," rather than yes or no.

(N=58)	more	same	less	no ans.
1. Was individual attention given to you by teachers?	9%	69%	19%	3%
2. Were the teachers normally prepared for lectures and discussions?	53%	43%	0	3%
3. Were you worried or disturbed at being placed under a team of teachers, rather than one?	7%	62%	31%	0
4. Did you feel you learned as much here as you would have done in normal classes?	22%	59%	19%	0
5. Were you challenged to work hard?	28%	45%	26%	3%
6. Was the atmosphere of the team class a business-like atmosphere?	21%	41%	38%	0

	more	same	less	no ans.
7. Could you hear the lectures and see the blackboard in the larger room?	12%	62%	24%	2%
8. Did you feel you showed progress by improving your study habits (as compared with your progress last year)?	26%	52%	21%	2%
9. Did you feel at ease when a teacher aide directed the class?	9%	69%	19%	3%
10. Did you feel the teachers gave an organized course of instruction?	31%	53%	14%	2%
11. Were assignments generally given well in advance?	38%	50%	5%	7%
12. Were these assignments clear?	33%	64%	3%	0
13. How effective was the small group instruction (in writing and discussion)?	31%	55%	14%	0
14. Did any teacher have problems in student discipline when he took the class alone (as compared to a normal, smaller class)?	31%	47%	22%	0
15. Did you have the chance to contribute ideas to the class?	14%	41%	43%	2%
16. Could you take classroom problems to a teacher for help?	16%	60%	22%	2%
17. Did the normal monotony of every day work become less under this team situation?	38%	38%	24%	0
18. Did you have the chance to be creative--that is, write, study, or work on your own ideas?	64%	26%	9%	2%
19. Could you take personal (not school work) problems to the teacher?	7%	43%	47%	3%
20. Is the large group lecture generally interesting:	29%	59%	9%	3%
21. Did you feel that you made progress in learning to think for yourself?	29%	69%	2%	0
22. Did you make many new friends among other pupils in team classes?	59%	36%	5%	0

		more	same	less	no ans.
23.	Was the grading policy clearly understood:	26%	50%	24%	0
24.	Has your ability to work independently (without supervision improved in team classes?	33%	43%	10%	14%
25.	Are you generally satisfied with your team class this year?	34%	50%	16%	0
26.	Do you feel this type of class prepares you for college work?	57%	22%	7%	14%

The remaining part of the questionnaire requires written answers by you. You may, if you wish, repeat some part of an earlier question.

I. List what you feel are the strongest and best features about the team class:

a)
b)
c)

II. List what you feel are the weakest features about the team class:

a)
b)
c)

III. Are there any specific areas of improvement within the curriculum (for example, book reports, testing, grading, content areas, etc.) which you would like to see changes?

IV. Any added further comments, pro or con:

APPENDIX G

INTERSPERSED ELECTIVES

Non-Writing	CTMM Vb	Pre-test	Post-test
ExB1	128	155	160
ExB2	123	156	160
ExG3	121	163	168
ExB4	123	156	153
ExB5	118	168	168
ExG6	118	165	165
ExG7	113	162	168
ExG8	114	160	168
ExG9	107	157	163
ExG10	99	154	158
Ex =	1164	1596	1631
M =	116.4	159.6	163.1

M = 3.5

Writing	CTMM Vb	Pre-test	Post-test
EyB1	126	169	170
EyB2	127	163	166
EyG3	122	163	168
EyB4	120	160	160
EyB5	116	156	163
EyG6	118	165	165
EyG7	114	164	161
EyG8	116	160	161
EyG9	107	156	156
EyG10	98	155	157
	1164	1611	1628
	116.4	161.1	162.8

M = 1.7

Control	CTMM Vb	Pre-test	Post-test
CB1	125	163	165
CB2	125	162	168
CG3	121	163	167
CB4	121	156	156
CB5	118	158	154
CG6	118	163	167
CG7	113	153	154
CG8	112	158	166
CG9	107	155	155
CG10	99	144	133
	1159	1575	1591
	115.9	157.5	159.1

M = 1.6

1 year growth (mean): 1.3
(median): 1.1

Non-Writing = Students in a non-writing elective program (i.e., drafting, piano, etc.).

Writing = Students whose elective was in a writing area (i.e., Creative Writing, Annual, etc.).

Control = Conventional five-day-a-week English program.

APPENDIX H

English I--Science Back-To-Back

STUDENT QUESTIONNAIRE

	To a lesser degree %	To an average degree %	To a considerable degree %	No response %
Opportunity to have a variety of things to do.	04	18	76	02
Opportunity to have fewer class discipline problems.	28	46	24	02
Opportunity to talk with the teacher.	13	35	52	
Feeling of responsibility for contributing to the class as a whole.	17	50	33	
Opportunity to contribute ideas to the class.	08	46	46	
Opportunity to use the library.	06	35	57	02
Opportunity to hear outside speakers.	09	28	63	
Opportunity to visit places other than school.	09	35	56	
Opportunity to take notes.	04	20	76	
Opportunity to listen to tape recordings.	35	45	20	
Opportunity to listen to records.	80	16	04	
Opportunity to speak before the group.	09	50	41	
Opportunity to read things you enjoy.	19	50	31	
Opportunity to write own ideas.	17	44	39	
Opportunity to use initiative in finding things out for yourself.	07	39	54	
Knowledge of how to find out what you need to know.	11	50	39	
Freedom from repetition of what you already know.	26	52	22	
Challenge to do your best.	17	37	46	
Feeling that you can take classwork problems to the teacher for help.	15	31	52	02

	To a lesser degree %	To an average degree %	To a considerable degree %	No response %
Feeling that you could take personal problems to the teacher for help.	39	33	26	02
Opportunity to apply what you learn.	13	50	37	
Opportunity to discuss what's in the news.	59	28	13	
Relaxed atmosphere in class.	11	26	63	
Stimulation to follow out new ideas.	15	55	28	02
Development of organized study habits.	35	45	20	
Chance to enjoy change of pace in learning.	06	22	72	
Sense of being an active member of class.	26	46	28	
Opportunity to help decide what's done in class.	24	43	33	
Opportunity to work with librarian.	35	45	20	
Opportunity to express your point of view.	13	41	46	
Opportunity to understand others.	04	63	31	02
Opportunity to correct your own errors.	13	50	35	02
Opportunity to solve problems as a group.	11	43	44	02
Opportunity to progress at your own rate.	17	50	31	02
Opportunity for individualized instruction.	28	52	20	
Opportunity to get out into the community for ideas.	42	28	28	02
Opportunity to explore own interests in relation to class assignments.	28	42	30	
Opportunity to be creative (i.e. to look for new ideas on your own)	15	48	37	
Learning to meet deadlines.	24	33	43	
Understanding of why you are being taught the subject matter at hand.	24	46	30	
Chance for group discussion of interesting ideas.	07	30	63	
Time for supervised study.	30	42	28	
Time for independent study.	31	43	26	
Opportunity for review of what has been presented.	11	48	41	
Opportunity for self-discipline.	24	39	37	

	To a lesser degree %	To an average degree %	To a considerable degree %	No response %
Decrease in monotony of day-to-day work.	24	31	45	
Feeling that you are in a group with abilities similar to your own.	17	37	46	
Opportunity to consider your overall goals and plans.	18	41	39	02
Desire to overcome difficulties in schoolwork.	22	43	35	
Feeling that the teacher has planned ahead for your course of study.	24	30	46	

TEACHER EVALUATION OF TEAM TEACHING

The attached questionnaire has been developed by the District Staff Utilization Committee for use in evaluating the various team teaching programs now functioning throughout the District. We realize that the questionnaire is somewhat lengthy, particularly in the open-end questions, but we would like to emphasize the great importance that will be attached to your thoughtful comments. These questionnaires will be a vital part of the summer evaluation program.

We would appreciate your completing this form and returning it as soon as possible to the District Office, attention of Dr. William Georgiades.

Thank you for your cooperation.

In comparison to a traditional teaching situation, how would you evaluate the following features of the team teaching program in which you are involved? (NOTE: Please feel free to make comments regarding any of your answers on the reverse side of this sheet.)

	More	Same	Less
1. After your initial large group presentation, how comfortable did you feel working with these large classes?	___	___	___
2. Teacher school time available for organization, preparation.	___	___	___
3. Additional outside time which you devote to preparation in this program.	___	___	___
4. Your own evaluation of the effectiveness of your preparation.	___	___	___
5. Opportunity to improve teaching skills and methods.	___	___	___
6. Opportunity to concentrate on specific areas of interest.	___	___	___
7. Availability of time for working with individual students on assignments.	___	___	___
8. Opportunity to become personally acquainted with individual students and offer guidance.	___	___	___
9. Time available for student diagnosis and parent consultation.	___	___	___
10. Ease of "grouping" students within a given class.	___	___	___
11. Opportunity for class discussion in this program.	___	___	___
12. Opportunity for supervised study.	___	___	___
13. Time available for lecturers and other activities.	___	___	___
14. Development of student responsibility and independence.	___	___	___
15. Challenge to students to do their best.	___	___	___

	More	Same	Less
16. Opportunity for student creativity.	___	___	___
17. Outside preparation required of students in this program.	___	___	___
18. Student attention in class in this program.	___	___	___
19. Discipline problems.	___	___	___
20. Your general impression of student learning taking place in this program.	___	___	___
21. Ease of grading.	___	___	___

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22. Do you feel that certain types of students benefit more from this type of program than others? If so, can you specify?

23. If you had a teaching intern, could you use him profitably? What duties would you assign him?

24. How do you feel the team teaching program could be improved for next year?

25. List the strongest features and the weakest features in the team teaching program.

26. If you were establishing a teaching team in a given area, what three basic guide lines would you advise?

27. Do you want to continue in team teaching next year? (Yes--No)

28. Any further comments: